

Section VI
TECHNICAL SPECIFICATIONS

REFURBISHMENT WORKS OF THE SECONDARY
VOCATIONAL EDUCATION "ROŽAJE"

Section 1: Project description

Section 2: General Requirements

Section 3: General Works Specifications

Section 4: Civil and Architectural Works

Section 5: Hydrotechnical installations

Section 6: Electrical Installations

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List of abbreviations

Abbreviation	Full Reference
ACAD	Auto-CAD- computer aided design
AHD	Average Haul Distance
BoQ	Bill of Quantities
CA	Contracting Authority
CB	Construction Book (evidence of work performed)
Cca	Circa (approximately)
CE	Conformity European
CEDIS	Montenegrin Electricity Distribution System
CGES	Montenegrin Electricity Transmission System
CSNU	Central Supervisory and Control System
Day	Calendar Day
DD	Detailed Design
DEA	Diesel electric generator
DIN	German Standard (i.e Deutsches Institut fur Normung)
DN	Diameter Nominal
DNP	Defects Notification Period
EMP	Environmental Management Plan
EN	European Norms
ENEC	European Norms Electrical Certification
EU	European Union
FFL	Final floor level
FP	Fire Protection
GC	General Conditions
GF	Ground floor
GRO	Main distribution cabinet
GSIP	Main Bus for Potential Equalization

h	hour
H&S	Health and Safety
H&S&E	Health, Safety and Environment
HAVC	Heat, Air Ventilation, and Cooling
HDPE	High density extruded polyethylene
ICT	Information and Communications Technologies
IEC	International Electro technical Commission
ISO	International Organization for Standardization
JUS	Yugoslavian Standard
kg	kilogram
km	kilometer
KRK	Cable Connection
kW	kilowatt (1000 watts)
l	liter
LAN	Local Area Network
LED	Light-emitting Diode
L.S.	lump sum
m	meter
m ²	square meter
m ³	cubic meter
m/d	man-day
MCB	Main Circuit Board
Misc.	Miscellaneous
mm	millimeter
MS	Method Statement
MSDS	Material Safety Data Sheet
OSHA	Occupational Safety and Health Administration
PAC	Provisional Acceptance Certificate

PCT	Perforated Cable Tray
PE	Polyethylene
PM	Project Manager
PP	Polypropylene
pcs	pieces
PVC	Polyvinyl Chloride
RAL	Coloring system (Reichs-Ausschul3 fUr Lieferbedingungen und Gtitesicherung)
RC	Reinforced Concrete
MNE	Montenegro
TA	Technical Assistant
TMP	Traffic Management Plan
TS	Technical Specifications
TUV	Technischer Uberwachungsverein (Technical Inspection Association)

Section 1. - Project Description

INTRODUCTION

The location in question, that is, the building of the Vocational High School "Rožaje" is located in "Cetinjska Street" in Rožaje (cadastral plot 1632, Municipality of Rožaje). The number of floors of the school building is Po+P+1. Basement premises will not be the subject of this project. The school building includes the area of the gymnasium and administrative block, which was covered by another project. Next to the "Rožaje" Vocational High School, there is an area that belongs to the "30 Septembar" gymnasium, which is also not the subject of this project.

The total gross area of the part of the building that is processed by this adaptation project is 1,036.2 m² (note: this square footage does not include the canopies of the building).

EXISTING CONDITION

The form of the object is recognizable by the polygon depicted at the base of the object. Supporting beams depart from the central column at an angle of 30 degrees.

The building is purely functional with a central circular staircase that is dominant in the space and from whose landings you enter the classrooms. There is a landing on every second level, and the classrooms on the ground floor are located at different heights: at 0.00, then at +0.32, 0.64, 0.96, 1.28 and 1.60m. At elevation +3.20 is the hall of the first floor, from where the staircase with a narrower leg starts again in the same way and on every other step up to elevation +4.80 it enters the classrooms. At the very entrance to the ground floor of the building and the windbreak (which belong to another project) there is a porter's office. In addition to the hall, the central staircase, the porter's office and the classroom on the ground floor of the building, there is a corridor that leads to the dormitory rooms, an anteroom that leads to the basement of the building (boiler room) and men's and women's toilets. On the first floor of the building there are classrooms, an assembly hall, archives, offices for pedagogy, accounting, and the director. From the front of the facade, you can clearly see two subsequently built cubes that are intended for storage. They are located at an elevation of +3.20 and +4.80.

According to the project that processed the gymnasium block, the position of the main entrance to the facility was changed in relation to the existing condition. Also, this project foresees administrative rooms (meeting room, pedagogical offices, accounting, director, assistant director) therefore, in the planned state, classrooms are foreseen from the spaces that belonged to the meeting rooms and offices in the project.

The roof is composed of several single-gable units, divided by beams that are clearly emphasized. On the facade of the building, there is a clear difference in height throughout the entire building, so you can visually notice the difference in levels near the classroom. The building has a mixed structural system.

At the request of the Client, and during the tour and analysis of the existing condition of the building, clear guidelines were established for the adaptation of the part of the building belonging to the Vocational High School "Rožaje".

The floor covering in the hall and in the corridors is made of terracotta, in some segments it is slightly damaged, and in some segments an attempt is made to visibly fit different materials during the previous time, which in some segments leaves an ugly impression. The PVC floors are in very poor condition.

The ceramics in the toilets were partially adapted in the previous period, however, in some segments it is noticeable that they have collapsed. The sanitary equipment is in a bad condition, in the existing condition, there are squats in one toilet, which need to be replaced with toilet bowls.

Wall and ceiling surfaces have visible damage in the form of dirt and cracks on the wall and ceiling compositions. The ceilings are plastered and repainted with semi-dispersion on the ground floor of the building, while the upper floor and in the hall have a paneled ceiling, while the beams stand out clearly in the space in concrete with a central column.

Facade and internal locksmithing within the entire building is mostly in bad condition and the same is treated by this project. The interior door is quite old and partially damaged and needs to be replaced. Floors and wall surfaces are mostly damaged.

The roof covering has worn out and it is necessary to replace the existing roof structure and roof covering.

DISMANTLING AND DEMOLITION WORKS

The intervention plan envisages the dismantling and demolition of certain elements that are currently in a bad condition, all with the aim of creating a nicer and more comfortable space for users to stay and study. The project envisages the removal of the final floor coverings in the classrooms, toilets and rooms for the janitor and the boiler room, up to the concrete slab layer, as well as the scraping of the surface treatments of the walls and ceilings.

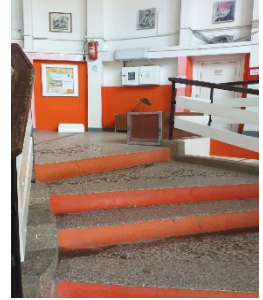
During the performance of works on the gymnasium, it was necessary to form a new entrance to the facility for adequate functioning. As part of the new project, it is planned to remove the facade wall and the entrance lock, including the access concrete plateau with a protective fence, given that the former main entrance has been reactivated. Also, the dividing wall that divided the classroom and the entrance hall was removed in the new solution, because in this way the original dimensions of the classroom are returned, which meet the standards with their capacity.

The project envisages the removal of the complete interior and exterior locks, as well as the metal protective nets that are currently located on the ground floor openings. In relation to the new locksmith schemes, which specify openings with a higher height than the previous ones, it is necessary to remove the lintels and prepare the frames for the installation of the new locksmith.

Dismantling works include the removal of the ramps on the metal substructure, as well as the staircase on the first floor, which is located at the connection between the classroom and the former assembly hall. Also, as mentioned in the current condition, due to the poor condition, it is necessary to replace the entire covering, as well as the canopies above the classroom terraces, including all gutter verticals and horizontals, along with the entire cladding sheet.

Photographs





PLANNED STATE

The project envisages the replacement of the existing sanitary facilities located on the ground floor. It is planned to replace the existing squat toilets with a toilet bowl, so the position of the waste water drain needs to be modified. The designed sanitary devices, fittings and haberdashery are first class. All of them are white, and their type, as well as the type of fittings and haberdashery, is in accordance with the requirements of the Investor and the interior designer. During assembly, it is necessary to place all devices and accessories at the prescribed height, and pay particular attention to adapting the connections to the factory conditions of the selected elements. The definitive specification of sanitary devices with their dimensions should be made after checking the dimensions of the actual condition of the rooms in which their installation is planned.

The approach to the building (external stairs) is provided by another project. In all rooms, it is planned to replace the internal and external locks (aluminum-inside, PVC-outside) with fillings made of double-layered and Pamplex glass 3.3.1, as well as aluminum panel d=2cm and chipboard d=1.8cm. In room number 16, it is planned to remove the door, build a parapet at a height of 95 cm and install a smoke window. 220x185cm. In room no. 9, in its current condition, a partition wall made of plaster of paris has been installed, which is scheduled for demolition according to the intervention plan.

The new project envisages the replacement of the existing floor coverings with new PVC floors in the classrooms, ceramics in the toilets, including the covering of ceramic tiles over the terraces in the area of the hall and hall staircase. The removal of the existing final floor coverings is planned to be carried out up to the concrete slab layer. All wall and ceiling surfaces are treated with smoothing compound and interior paint in 2 layers/ ceramic tiles on adhesive in the toilets, after scraping the existing finishing layers. The current positions of the newly built storerooms above the canopies on the eastern side of the building were removed in the new project and a new roof covering with appropriate layers was designed in their place.

It is planned to replace the existing roof structure with a new one, which consists of the following layers: double-folded sheet metal, vapor-permeable-waterproof film, sub-flooring d=2.4cm, wooden rafters 10x14cm (between the rafters mineral wool board d=10cm), vapor barrier, wooden slats 4x4cm, suspended ceiling in the classrooms/ wooden slats in the hall. It is also planned to replace the horizontal and vertical gutters with the replacement of the existing cladding of the exposed part of the roof. The rooms on the first floor have suspended ceilings.

In the building, it is planned to replace electrical installations - lamps, switches, sockets, as well as the installation of weak current in all rooms with connections.

Technical Specifications

Br. prostorije/ Room No.	Namjena prostorije /Purpose of the room	Površina/ Area (m²)	Svijetla visina / Clear ceiling height (m)	Obrada podova, zidova, plafona / Floor, wall and ceiling finishes		
Osnove prizemlja / Ground floor				pod / floor	zid / wall	plafon / ceiling
1	HOL/HALL	43.43	2.95	keramika/ceramic tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
2	HODNIK/HALL	25.77	2.95	keramika/ceramic tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
3	KOTLARNIKA/BOILER ROOM	6.59	2.95	keramika/ceramic tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
4	TOALET/TOILET	15.64	2.95	keramika/ceramic tiles	keramika do h=2.4m, od 2.4m do 2.95m poludisperzija / ceramics up to h=2.4m, from 2.4m to 2.95m semi-dispersion	poludisperzija / semi-water dispersion -based paint
5	TOALET/TOILET	15.52	2.95	keramika/ceramic tiles	keramika do h=2.4m, od 2.4m do 2.95m poludisperzija / ceramics up to h=2.4m, from 2.4m to 2.95m semi-dispersion	poludisperzija / semi-water dispersion -based paint
6	DOMAR/JANITOR	6.58	2.95	keramika/ceramic tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
7	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
8	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
9	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
10	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
11	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
12	UČIONICA/CLASSROOM	39.83	2.95	pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
13	STEPENIŠTE/STAIRCASE	53.67		keramika/tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
14	PORTIRNIKA/CONCIERGE	5.48		keramika/tiles	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint
15	UČIONICA/CLASSROOM	39.83		pvc/pvc	disperzija / dispersion -based paint	poludisperzija / semi-water dispersion -based paint

UKUPNA NETO POVRŠINA PRIZEMLJA JE 450.27 m²
TOTAL NET AREA OF GROUND FLOOR 450.27 m²

UKUPNA BRUTO POVRŠINA PRIZEMLJA JE 529.57 m²
TOTAL GROSS AREA OF GROUND FLOOR 529.57 m²

Br. prostorije/ Room No.	Namjena prostorije /Purpose of the room	Površina/ Area (m²)	Svijetla visina / Clear ceiling height (m)	Obrada podova, zidova, plafona / Floor, wall and ceiling finishes		
Osnove prizemlja / Ground floor				pod / floor	zid / wall	plafon / ceiling
1	HOL/HALL	33.52	5.10-7.95	keramika/ceramic tiles	disperzija / dispersion -based paint	lamperija / wood paneling
2	STEPENIŠTE/STAIRCASE	24.88	2.50-3.00	keramika/ceramic tiles	disperzija / dispersion -based paint	lamperija / wood paneling
3	UČIONICA/CLASSROOM	39.83		laminat/laminate	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
4	UČIONICA/CLASSROOM	38.21		pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
5	UČIONICA SA POMOĆNOM PROSTORIJOM /CLASSROOM WITH AUXILIARY ROOM	69.09	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
6	OSTAVA/STORAGE ROOM	9.34	3.00	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
7	UČIONICA/CLASSROOM	39.83	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
8	UČIONICA/CLASSROOM	39.83	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
9	UČIONICA/CLASSROOM	39.83	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
10	UČIONICA/CLASSROOM	39.83	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling
11	UČIONICA/CLASSROOM	39.83	2.90-3.40	pvc/pvc	disperzija / dispersion -based paint	spušteni plafon /suspended ceiling

UKUPNA NETO POVRŠINA PRVOG SPRATA JE 414.86 m²
TOTAL NET AREA OF THE FIRST FLOOR IS 414.86 m²

UKUPNA BRUTO POVRŠINA PRVOG SPRATA JE 508.22 m²
TOTAL GROSS AREA OF THE FIRST FLOOR IS 508.22 m²

Section 2. General Requirements

Introduction

Under this Contract, the Contractor shall take responsibility for supply and construction/ installation of the works, all as described hereunder and presented in other contractual documentation such as Drawings, BoQ and Price Schedule.

2.1. Scope of Works

The Contractor's scope of works shall include all required activities to ensure the correct and proper realization of the refurbishment works of the Secondary School for Vocational Education "Vukadin Vukadinović" Berane, defined in the contractual documents.

The works shall include but not limited to, the following:

- drafting a Programme of tasks showing the critical path for all the Works, receiving approval from the Supervisor and keeping it updated;
- receiving site from the Beneficiaries;
- setting up site and making the safe and secure to avoid accidents and damage to neighboring assets throughout the construction process until final completion;
- procurement and installation of construction site boards in accordance with the Montenegrin Law
- drafting a Health and Safety Plan and Environmental Protection Plan, receiving approval from the Supervisor and keeping it updated;
- providing temporary: electricity, water, etc. to the site for construction purposes;
- providing all relevant security for the entire construction period and displaying warning signs
- placing elements of visibility
- supplying and delivering of all materials, building and installing as to the provided in detailed drawings and these Technical Specifications;
- providing shop drawings specifically for architectural, electrical, mechanical works, and any other required, for the approval of the Supervisor;
- providing samples and attests of relevant materials, for the approval of the Supervisor prior to placing orders;
- testing, commissioning of completed work
- preparing as-built drawings, maintenance manuals and any other documentation necessary for the beneficiary to be able to operate and maintain the facilities;
- complying with all instructions received during the provisional and final acceptance (e.g., remedying of defects, etc.).

2.1.1. Regulations, Standards, Testing

During the progress of the works, all required tests shall be carried out on materials and workmanship in order to ensure compliance with these Technical Specifications.

Copies of all the test results must be delivered by the Contractor to the Supervisor immediately after testing.

2.1.2. Case of conflict

In case of conflict between the Requirements of these Technical Specifications and any other requirements, the order of preference is specified in the Contact form.

2.1.3. Methods of Testing

All tests shall be made in accordance with the standard methods prescribed by the following, in order of preference as ordered by the Supervisor.

- MEST: Montenegrin standards
- EN: European Standards
- JUS: Yugoslav standards
- DIN: Deutsches Institut für Normung (Abbreviation: DIN).

In addition to the above, standard specifications or test methods of other bodies may be referred to this specification, or test methods may be described where no acceptable standard methods exist.

2.1.4. Cost of Testing

The cost of all provision of samples and testing of materials and workmanship undertaken to ensure compliance with the technical specifications shall be at the Contractor expenses.

The Contractor shall provide all necessary temporary works in connection with the test, and shall remove the same on successful completion of the test. All tests shall be done in the presence of the Supervisor' and the results of such tests shall be signed by the Contractor and handed to the Supervisor' who shall prepare the required test reports.

All equipment, labor, materials and water necessary for the carrying out of these tests to the complete satisfaction of the Supervisor' shall be provided by the Contractor at his own expense. Should any test fail, the Contractor shall carry out further tests all as described above until such tests meet with the requirements contained herein. All such tests and retests shall be at the expense of the Contractor.

2.1.5. Additional Testing

The Supervisor shall have the right to take any samples and to order any additional tests on materials or workmanship supplied by the Contractor if the Supervisor has reasonable doubt as to their quality.

2.1.6. Sampling

Where it is required that the Contractor submits samples of materials to the Supervisor for approval prior to their use in the works, the use of these materials without the Supervisor's written approval shall constitute default on the part of the Contractor for the consequences of which default he shall be liable. All samples shall be submitted in sufficient time for proper testing.

Same applies to testing of finishing materials for internal as well as external use and installations.

2.2. *Performance Specifications*

All materials, workmanship, and tests shall comply with Standards and Codes of the State Authorities, Contracting Authority and the Supervisor.

It shall be the responsibility of the Contractor to include all works necessary to ensure the intended performance of the works in all respects. The sole responsibility rests with the Contractor to produce work which conforms in quality and accuracy of detail, to the Contracting Authority Technical Specifications, Main design and other relevant documents.

The Contractor must establish a quality control system and provide experienced execution and quality control personnel, together with all transports, instruments and equipment, to ensure adequate supervision and positive control of the Works at all times.

2.3. *Approval and Instruction by the Supervisor*

All requests for instruction, approval of documents and drawings should be submitted to the Supervisor.

The Supervisor is the only actor who can give instruction, direction or approval to the Contractor. The Supervisor will supervise the works and give instructions according to Law on Planning and Construction these TS and Contract.

Approvals, instructions or directions by the Supervisor shall not relieve the Contractor from its liabilities and responsibilities under the Contract.

2.4. *Contractor drawings, As-built Design and Operation and Maintenance Manuals*

Contractor shall prepare any required shop drawings and reflect the same on the as-build drawings.

The As-built Design/Drawings and Operation and Maintenance Manuals shall be prepared in English and Montenegrin languages in 3 (three) hard copies and digital format. All documents must be approved by the Supervisor on behalf of the Contracting Authority.

The Contractor shall submit to the Supervisor, all such documentation as well as all warranties and/or guarantees and operation manuals for the installed plant and equipment, all in three copies and in electronic format.

This item shall be paid as a lump sum.

2.5. *The Contractor's Control and Documentation*

2.5.1. *General*

The language of the contract is English.

The documents, which are to be presented to state authorities (for the purpose of issuing permits, an inspection, etc.) will be, in addition to English, also in Montenegrin.

When submitted as electronic files, the documents shall be compatible with following formats: Adobe Acrobat (.pdf), MS Word (.docx), MS Excel (.xlsx), Auto Cad (.dwg), MS Project (.mpp).

During the entire period of implementation (execution of works and DNP) the Contractor is obliged to act in line with the Contract and its addendums (if applicable), all Laws, and Rulebooks and Standards valid at the time of implementation of the Contract.

Laws and regulations include, but are not limited to Law on Spatial Planning and Construction of Structures, Law on Occupational Health and Safety, Fire Protection regulation, etc.

The Contractor shall be liable to provide the Supervisor with due documentation as per local Regulations. The Contractor shall prepare documentation, all according to Rulebook on the manner of preparation and content of the construction log and measurement book ("Official Gazette of Montenegro", No. 068/18 of 10 October 2018).

During the Contract period, the Contractor shall, to the level of Supervisor satisfaction, keep all necessary documents in office on site. As well the Contractor shall present regularly that the Works comply with the Technical Specifications stipulated in the Contract or approved during the Contract implementation period. Consequently, based on the approved QAS and the CPs, the Contractor shall during the execution of the works carry out and document the quality control and its compliance with the stipulated Specifications.

The Supervisor will control all documents prepared by the Contractor in order to ensure that all documentation is prepared in line with the Contract and Montenegrin legislation.

2.5.2. *Work Program*

The Work Program presented by the Contractor shall consist of a detailed schedule of all construction works and phases. Once approved by the Supervisor, the Work Program shall be binding for the Contractor.

The Contractor shall present a Work Schedule for execution of the works with distribution of resources and manpower, including volume of works, number of workers, interaction with different participants in the process, time limit for execution and sequence of the works to the Supervisor for approval according to this Contract.

Pursuant to the requirements, the Work Program to be submitted by the Contractor shall show the planned monthly rates of progress between the program dates for commencement and

completion of each major item or work for the various stages of construction, in accordance with the Conditions of Contract.

The Work Program shall take into account climatic conditions and completion of critical components by the Contractor or other contractors (if any), supply services conditions and other conditions, to ensure the completion of the works in accordance with the Contract.

The Contractor shall not be permitted to commence any construction work on that part of the works until the Supervisor has no objection to the method statements, drawings and calculations. Sufficient time for approval of drawings materials and method statements must be allowed for in the Work Program for each component.

The Contractor shall allow in its Program a reasonable period for work to be carried out by Public Utility Services, Authorities and the Beneficiary where necessary. The Beneficiary will provide all necessary assistance in liaising with such Authorities.

The Contractor shall also allow in its Program sufficient time required for Provisional Acceptance as stipulated in the Contract.

2.5.3. Monthly Progress Report

During of the execution of the Contract, the Contractor shall follow the progress of activities relative to the time schedule and shall submit to the Supervisor Monthly reports for the results of its activities, conforming to the following requirements:

- The Report to be provided to the Supervisor in 3 (three) hardcopies in Montenegrin and 3 (three) in English well as digitally (on CD enclosed to the Report);
- Diagrams with detailed progress description, Contractor's documents, delivery, construction works, assembly and tests;
- Digital photos (on CD enclosed to the Report);
- Linear chart (schedules) for the current Stage, showing the actual and the planned progress;
- Report, reflecting all considerable differences from the construction program, and if necessary, explanation for the proposed steps to be undertaken for the completion of the approved program;
- Statistics on safety and environment protection;
- Financial Statement (Cash flow);

When actual work progress differs from that shown in the Construction Program, the Contractor shall submit an updated schedule to the Supervisor.

Processing of the Interim Payment Certificate (IPC) is conditioned with completed and approved Progress Report.

2.5.4. Site Acceptance and Defect Liability Period

Before Provisional Acceptance, the Contractor shall in co-operation with the Supervisor finally check all documentation which has been requested and has been presented.

The Contractor shall present Tests on Completion copies of the complete documentation.

The Contractor's remedial work after Provisional Acceptance is subject to the same control conditions as the work before Provisional Acceptance. Subsequent control documentation shall be handed over to the Contracting Authority before expiry of the Defects Liability Period.

Defects Liability Period (DLP) is 24 months following the issuance of provisional acceptance by the Supervisor. DLP can be extended by the order of the Supervisor should any works activity experiences significant failure, during DLP. The DLP can be extended for that particular work or entire works, as determined by the Supervisor.

The Original documentation in the control file shall be kept with the Contractor for at least 7 (seven) years after the Final Acceptance.

2.5.5. Right of Access and Audit

The Contracting Authority shall be guaranteed unlimited access at any time to all documents and quality assurance documentation associated with the Contract. This also includes the same unlimited access to all production and manufacturing facilities.

When the Contracting Authority wants access to suppliers, manufacturers or sub-Contractors, the Supervisor will give due notice to the Contractor, whereby the time and purpose of the visit will be specified with the agreement of all parties involved.

Section 3 - General Works Specifications

3.1. General

The Contractor must be fully acquainted with all details of the provided design documentation, as well as with all local regulations, local standards (MEST), common practice of trade and circumstances for their execution. Nevertheless, it is understood that, whenever local regulations, local standards (MEST), or any common practice of trade, are subject to any interpretation, clarification, ambiguity, or dispute, a ruling by the Supervisor will prevail, always provided that such ruling will be fully in compliance with and will be based on the subject local regulations, local standards (MEST), as well as in accordance with common practice of trade, and any such ruling by the Supervisors and subsequent instruction in that respect, will not constitute any ground for variation order and/or any additional payment.

Communication between the Contractor and the Contract Authority and/or Beneficiary, during the works will be carried out exclusively through the Supervisor. The Contract Authority is responsible for the design.

All works must be carried out precisely and professionally. Prior to application, the Supervisor must examine all material and all his comments referring to material and quality of work will be obligatory for the Contractor. The agreed prices include all fully completed works and final products ready for use.

ICS number	Standard number	Year	Title
03.120.10	MEST EN ISO 9000:2016	2016	Quality management system -Fundamentals and vocabulary
	MEST EN ISO 9001:2016	2016	Quality management systems-Requirements
	MEST EN ISO 9004:2018	2018	Quality management - Quality of an organization - Guidance to achieve sustained success
	MEST EN ISO 10002:2009	2019	Quality management systems - Guidelines for the application of ISO 9001:2015
	MEST EN ISO 10002:2009	2009	Quality management - Customer Satisfaction-Guidelines for complaints handling in organizations
	MEST EN ISO 10005:2009	2009	Quality management systems - Guidelines for quality plans

The Contractor will be responsible for any and all damages caused by the Contractor during any works, to any third party, structure, main building or adjacent buildings, and any and all repair works and compensations of any kind will be at the Contractor's expense.

Prior to the commencement of the works, and also in the course of the execution of every work item, the Contractor will ask the Supervisor for any explanations and clarifications required, therefore, the Contractor will solely bear full material responsibility for all works not completed in accordance with the concept and details of this specifications.

The Contractor will be responsible to keep records on the progress of works in the measurement book and have it controlled and verified by the Supervisor.

Upon the completion of the works the Contractor will remove from the building site and other used areas all its tools, machinery, surplus material, etc. so as to have the site nearly arranged as defined in the investment technical documentation, and all other areas restored in same condition as before the construction.

All construction works must be carried out under the conditions and in the manner prescribed by Law on Spatial Planning and Construction of Structures.

For all works, applicable MNE regulations and standards shall prevail.

3.2. Technical Standards and Regulations

In accordance to these Technical Requirements, the Contractor shall ensure that its performance incorporates the following key principles:

- For all required works and services specified in this Tender Dossier, the relevant MNE standards and codes of practice shall apply. In any case, if Montenegrin standards are more strict or dominant, they shall apply to replace other standards given or not in other parts of this document.
- For works and services where no relevant Montenegrin standards or codes of practice exist, the latest European Standards and code of practice shall be applied.
- The proposed application of other standards and code of practice for certain works and/or services shall be such as to ensure equal or higher than specified quality and safety of works, and to facilitate operation, inspection, maintenance, repairs, lubrication and similar operations.
- In any case, National standards and code of practice have to be used for each service and work, accompanied with explanations, to demonstrate to the agreement of the Supervisor that application of these standards and code of practice shall give required quality, safety, functionality and durability of the completed works.
- The applicable version of any standard shall be that valid 28 days prior to the latest date for submission of tenders.

3.3. Matters Not Covered by the Standards

Any materials and workmanship not fully specified herein or covered by the Standards, Codes or Manuals shall be of such type and quality so as to produce a required quality of work. In such circumstance, the Supervisor shall determine whether all or any of the materials offered or delivered to the site are suitable for use in the Works and the Supervisor's decision in this respect shall be final and conclusive.

3.4. Method Statements

The Contractor shall provide, in writing, a description of the arrangements and methods it intends to apply for the execution of the Works.

Method Statements (MS) shall show in detail the methods proposed by the Contractor for carrying out the principal activities of construction in full safety. In particular, the Contractor shall indicate the resources (plant, personnel, materials) to be allocated, timing and sequencing, emergency/contingency measures, and any other information required to clearly detail the proposed methods. All necessary health and safety and environmental measures required shall be clearly indicated.

This will be supported by calculations for temporary works for supporting excavated faces and shuttering of concrete. Flowcharts, sketches and drawings shall be included if necessary.

Proposed MS will be submitted to the Supervisor for approval. The Supervisor will review and provide its comments within 10 days. The Contractor shall make final corrections (if any) and submit it them to the Supervisor for final approval 15 days before the commencement of relevant work.

Written agreement shall be obtained before any work is commenced.

3.5. Facilities for Contractor's and Supervisor's personnel

3.5.1. Temporary Buildings, Contractor Office, storage and any other facility

The Contractor shall establish his construction offices, storages and temporary toilet on the site. The exact location of these facilities and the details of the same shall be approved beforehand by the Supervisor.

Prior to starting with construction works, the Contractor shall also move all constructional plant and personnel to the site. On completion of the work and after receiving approval in writing from the Supervisor, all constructional plant, buildings, fencing and other temporary structures shall be removed and the camp site shall be restored to its original condition and left neat and tidy.

The site office shall be a temporary site facility, furnished, equipped and serviced ready for occupation and use within 14 days of the Date of Commencement of the Works.

Weather resistance and thermal insulation shall be according to the specification appropriate to the local conditions with heating and cooling system that will keep the ambient temperature within the office space between min 19 and max 21 degrees. The offices shall be connected to a main electricity supply.

The Contractor shall pay all charges in connection with utilities. Where a main electricity supply is not available, and subject to the approval of the Supervisor, the Contractor shall supply a "demand" type generator capable of running 24 hours per day, if required, without causing any undue noise, interference or disturbance to surrounding residents or the Supervisor and his site staff.

3.5.2. Offices and other requirements for the Supervisor

Contractor shall provide, at a location within the site compound, office accommodation of a minimum of 12 m² for the sole use of the Supervisor and his representatives. The accommodation shall be subject to the Supervisor's approval. The offices, all fully equipped with necessary furniture, shall include, as a minimum:

- Site office, separate from Contractor's office, (minimum area 12 m²),
- Site office furniture including (minimum), one working desk with drawers, along with two chairs, one meeting table 2,50x1,20m along with four chairs,
- Site office equipment including (minimum), one electric heater/AC unit,
- Internet provision

A 220-volt electricity supply shall be connected; minimum one power point per 5 m², adequate strip lighting, electric heating, and air conditioning. Office shall be covered with heavy grade linoleum and blinds to all windows.

The office accommodation should be available to the Supervisor until 4 weeks after substantial completion of the Contract when they are to be removed from the site and the area reinstated. The Supervisor may extend this period if necessary.

All premises provided for the use of the Supervisor and his staff shall be properly cleaned and maintained daily. If any item of equipment requires servicing or repair an equivalent replacement must be provided as soon as possible by the Contractor.

The layout of all office facility for the Supervisor and Contractor shall be submitted to the Supervisor for approval.

This item shall be paid as a lump sum.

3.5.3. Sanitary Arrangements and Waste Disposal

The Contractor shall provide adequate facilities, as required to meet the applicable statutory provision, for use of his laborers on the Site.

3.5.4. Faulty Work

Any work which fails to comply with these Specifications shall be rejected and the Contractor shall, make good any defects, as directed by and to the satisfaction of the Supervisor.

3.5.5. Site Preparation

The Contractor shall confine his operations within the allocated Site, or such other areas of land as may be agreed between the Supervisor and Contractor.

The Contractor shall maintain the Site in a clean, tidy and safe condition during the period of construction and handover. The Contractor shall remove any disused materials and other debris arising in connection with the Works from the Site as it arises. The Sites shall not be taken over until such material has been removed.

Any materials so deposited shall be removed at the earliest practical opportunity.

The Contractor must establish and maintain a security fence all around the Construction Site throughout the entire work period. The Site must be guarded and signed in order to keep unauthorized persons away from the Site.

The Contractor must submit for approval a Site layout plan showing stockyard, position of protective fence, offices etc.

3.6. Existing and site use utility services

3.6.1. Existing underground cables, conduits and installations

No warranty is given as to the accuracy or completeness of the information on existing underground cables, conduits and installations included in the Contract. The Contractor shall consult all relevant authorities and owners of services (CEDIS, CGES, WSC, telecommunication companies, etc.) before commencing any excavations and shall satisfy himself as to the exact position of existing cables, conduits and installations which affect or may be affected by the Works. If any service is found to exist, but is not as indicated in the Contract, then the Contractor shall at once give written notification to the Supervisor.

The Contractor shall record the position of all located existing on drawings, a copy of which shall be made available by the Contractor to the Supervisor.

The Contractor shall execute the Works in such a manner that he does not damage or interfere with existing cables, conduits and installations on or near the Site.

It shall be the Contractor's responsibility to ensure proper back-filling, appropriate to the section of the site, of any excavation made in the work area by any utility company, necessitated by the Contractor's operations.

The Contractor will establish for himself safe clearances to cables of various different voltages from the appropriate local electricity authorities. All damage to, or interference with, existing services, caused during the progress of the works, shall be deemed to be the responsibility of the Contractor, who shall undertake to repair, any damage so caused to the existing underground services or other features.

Notwithstanding the foregoing Specifications, and without lessening the Contractor's responsibility, the Contractor shall inform the Supervisor immediately if any existing works are jeopardized.

3.6.2. Site use and utility services

The Contractor shall restrict his activities to within the Sites and shall avoid entry on to any other lands except where the Contractor has made his own arrangements for such entry or the owner has arranged for this entry. Any trespass, damage or claims arising from such entry shall be the sole responsibility of the Contractor, who shall hold the Contracting Authority indemnified against all claims arising from such trespass or damage.

The Contractor shall arrange the supply of electricity, fresh water, telephone, compressed air, and other services as are necessary to his Site establishment and shall provide, maintain and remove on completion all pipes, cables, and fittings which carry such services to his operations. The Contractor shall provide an adequate supply of safe drinking water on the Site. All electrical installations forming part of the Temporary Works shall comply with the current National Regulations.

3.7. Site access by officials

Authorized government officials shall at all times have access to the work whether it is in preparation or progress, and the Contractor shall provide such access for inspection.

3.8. Working hours and conditions

3.8.1. Site working conditions

The following general requirements shall apply:

- The Contractor shall provide adequate lighting where work is being executed at night and shall provide and install any additional lighting which the Supervisor may require in order to watch and supervise the Works and carry any testing and examination of materials;
- Materials available on the Site shall be used solely for the execution of the Works;
- The Contractor shall minimize the pollution of and disturbance to roads and other places on and around the Site;
- No trees or other vegetation shall be removed except with the express permission of the Supervisor;
- The Contractor shall ensure that access is provided to all buildings and properties adjacent to the Site for the duration of the Contract;
- All temporary buildings erected by the Contractor upon the Sites and the layout of the buildings and the site, shall comply with Laws and all local bylaws in so far as they are applicable;
- The Contractor shall be absolutely and solely responsible for the safety and security of Temporary Works and for the equipment in connection therewith which may be erected or provided for the carrying out of the Contract and for the execution of the Works. This provision shall be applicable to all temporary works and equipment whenever provided and erected by the Contractors for the purpose of or in connection with the Works.
- The Contractor shall clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation;
- Cleaning shall include washing with water, power brushing, and use of manual labor as necessary to achieve the necessary standard comparable with adjacent streets unaffected by the works

3.8.2. Working hours for construction

Site working hours shall be restricted according to the existing legislation in Montenegro, unless mentioned otherwise in the contract.

The Contractor's Programme and methods of working must be made on the assumption that the working hours will not be varied.

Any proposal by the Contractor to work outside these hours shall be submitted to the Supervisor for approval giving at least 7-day notice. A clear definition of the work to be carried out and the reasons for the request shall also be provided.

Unplanned deviation from the normal working hours will normally be limited to emergencies only and the Supervisor shall be informed of any such working, or the Contractor's intention of such working, at the earliest opportunity.

For the purposes of this clause, working shall be deemed to include for any activity whatsoever undertaken by the Contractor or any of his subcontractors in connection with the execution of the Works undertaken within the Site.

3.9. Visibility measures

In accordance with the Montenegrin legislation, the General construction work information board installation is part of the Contractor obligation.

The item shall be paid as a lump sum.

3.10. Security and Fire Fighting

The contractor shall respect all relevant local legislation and best available practice which is covering the field of Security and Fire Fighting.

The Contractor shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment.

The Contractor shall provide and maintain adequate fire extinguishers on the Site and areas of high fire risk shall be fenced and signs posted and supplied with specialized fire extinguishers, if necessary. Generators and their batteries and water pumps shall be adequately protected against vandalism and theft.

Unless otherwise provided by the Supervisor, the Contractor shall not by his operations obstruct any road or access to other buildings nor break down any fence nor obstruct any drains or water courses, but if such blockages occur, he shall at once remove the blockages and repair them the breakages.

3.11. Construction site documentation

Pursuant to Article 96. Law on spatial planning and construction of structures ("Official gazette of Montenegro" no. 064/17, 044/18, 063/18, 011/19 and 082/20), the Contractor shall keep the following documentation at the building site:

- 1) license of the contractor for the performance of activity set out in Article 122 of the present Law;
- 2) decision appointing the chartered engineer managing the building of the structure in its entirety;
- 3) license of the chartered engineer managing the building of the structure in its entirety;
- 4) license of the engineering supervision for the performance of activity set out in Article 124 of the present Law;
- 5) decision appointing the reviewer who is managing the engineering supervision over the building of the structure in its entirety;

- 6) license of the reviewer who is managing the engineering supervision over the building of the structure in its entirety;
- 7) evidence of liability insurance of the contractor and the engineering supervisor;
- 8) construction log book and a measurement book;
- 9) notification of building work;
- 10) stamped reviewed final design in electronic and analogue form;
- 11) site establishment study;
- 12) structure setting out/pegging out study;
- 13) written records of competent inspection authorities; and
- 14) other documents which the contractor has to collect and keep during building.

If the engineering documents envisage, for the purpose of structure building, the installation of factory produced parts, elements and equipment, the contractor shall also have at the building site, together with the documents set out in para.1 of this Article, supporting documents in compliance with law.

In the construction log book, the Contractor shall enter in it at least the following information: the weather conditions, interruptions of work owing to inclement weather, hours of work, number and type of workmen employed on the Site, materials supplied, equipment in use, equipment not in working order, tests carried out in situ, samples dispatched, unforeseen circumstances, as well as orders given by the Supervisor.

In the measurement book, the Contractor shall enter in it at least the following information: detailed statements of all the quantitative and qualitative elements of the work done and the supplies delivered and used, for the measurement on the site by the supervisor and for the purpose of calculating of payments.

Whenever the Supervisor requires any part of the works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

- a) Promptly either attend or send qualified representative to assist the Supervisor in making the measurement, and
- b) Supply any particulars requested by the Supervisor

If the contractor fails to attend or send the representative, the measurement made by (or on behalf of) the Supervisor shall be accepted as accurate.

The measurement book prepared by the Contractor shall be revised and signed by the Supervisor or his representative within 7 days of its receipt. The Contractor shall participate, at the place and on the date requested to him, in the examination and approval of the measurement book by the Supervisor's Representative and shall agree with him the eventual corrections to be entered into the Measurement book by the Supervisor.

The Contractor shall ascertain all conditions relevant to the Works.

All information obtained by the Contractor regarding site conditions, subsurface information, groundwater elevations, existing construction of site facilities as applicable, and similar data, are the complete responsibility of the Contractor. Neither the Supervisor nor the Contracting Authority

assumes any responsibility for the completeness and faultlessness or interpretation of such supplementary information.

The construction log book and the measurement book shall be done in accordance of Rulebook on the manner of preparation and content of the construction log book and measurement book ("Official gazette of Montenegro" no. 068/18).

3.12. Health, Safety, Accidents, Security

3.12.1. General Specifications

The Contractor shall maintain arrangements whereby he can quickly call out Labour outside normal working hours to carry out any work needed for an emergency associated with the Works.

The Supervisor shall be provided at all times with a list of telephone numbers of the Contractor's staff who are currently responsible for organizing emergency work. The Contractor shall acquaint himself and his employees with any relevant local arrangements which are in existence for dealing with emergencies.

The Contractor is also obliged to observe all the stipulated measures pertaining to protection at work as well as fire protection, hygienic and technical conditions all in accordance with the local legislative and best available practice.

The Contractor shall ensure to the satisfaction of the supervisor and relevant local authorities, the health, safety and welfare at work of his and subcontractor employees, third parties and representatives of the Supervisor and Contracting Authority.

3.12.2. Labour Safety and Protection

The Contractor shall provide for conditions necessary for health and safety while working. The execution of works in order to prevent accidents with employees and passengers, working site must always be limited by protective fence.

Contractor's responsibilities shall include but not limited to:

- preparation of the Health and Safety Plan which shall be approved by the Supervisor;
- the provision and maintenance of equipment and systems of work must be safe and without risks to health;
- the execution of suitable arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of construction material;
- the provision of protective clothing and equipment, first aid stations with such personnel and equipment as are needed and such information, instruction, training and supervision as are necessary to ensure the health and safety at work of all persons employed on the Works, all in accordance with Laws and all local By-Laws;
- designation as Safety Manager/s in full compliance with Tender Requirements, as well as of additional senior staff as needed who shall have specific knowledge of safety regulations, and experience of safety precautions on similar works and who shall advise on all matters affecting the safety of workman and on measures to be taken to promote such safety;

- the provision and maintenance of access to all places on the Site in a condition that is safe and without risk of injury;
- the provision of adequate refuse collection and disposal, complying with the Laws and all local By-Laws and to the satisfaction of the Supervisor, for all site offices and workshops on the site;
- the provision of suitable latrines and other sanitary arrangements at the site where work is in progress to the satisfaction of Supervisor;
- the execution of appropriate measures in consultation with the Inspection for supervision in the field of protection and health at work to control within the site;
- reporting details of any accident to the Supervisor as soon as possible after its occurrence;
- The provision and maintenance of adequately equipped first aid station on the site of the works.

The Contractor is also obliged to observe all the stipulated measures pertaining to fire protection, protection at work as well as hygienic and technical conditions as per general requirements and specific requirements in Montenegrin legislation.

3.12.3. Accidents, Extraordinary Events

The Contractor shall give immediate written notice to the Supervisor of any accident or extraordinary event occurred on the work site giving details of the same whether or not such an accident or event affects the progress of work. The Contractor is also obliged to report on any measure taken.

3.13. Environmental Protection

3.13.1. Environmental Management Plan and other general requirements

The Contractor shall take all necessary measures and precautions and otherwise ensure that the execution of the Works and all associated operations on or off site are carried out in conformity with statutory and regulatory environmental requirements.

The Contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the Works. This shall be achieved wherever possible by suppression of the nuisance at source rather than abatement of the nuisance once generated.

The provisions of these Sub-Clauses shall only be disregarded in respect of emergency work required for the saving of life or property or the safety of the Works.

In the event of any spoil or debris or silt from the Sites being deposited on any adjacent land, the Contractor shall immediately remove all such spoil debris or silt and restore the affected area to its original state to the agreement of the Supervisor.

The offer should include appropriate cost-effective mitigation measures, which should form part of the project cost.

Environmental Management Plan (EMP) shall be prepared by the Contractor incorporating proposals concerning the implementation, management and monitoring of the environmental components of the project.

Within two (2) weeks from the commencement of the works, the Contractor shall submit an EMP with operational details of its proposals to the Supervisor for approval.

The item shall be paid as a lump sum.

3.13.2. Environmental protection during construction period

The Contractor shall use such construction methods and shall maintain all borrow/stockpile/spoil disposal area so as to assure the stability and safety of the Works and any adjacent feature, to assure free and efficient natural and artificial drainage and to prevent erosion.

The Supervisor has the power to disallow the methods of construction and/or the use of any borrow/stockpile/spoil disposal area if in their opinion the stability and safety of the Works or any adjacent features are in danger, or if they disturb natural or artificial drainage, or if the method or use of the area will promote undue erosion.

Following excavation for the works, the Contractor shall take all steps necessary to complete drainage and slope protection works in advance of each rainy season. Erosion or instability or sediment deposition arising from operations not in accordance with the Specifications shall be repaired immediately by the Contractor at its expense. The Contractor shall also take all steps necessary to complete drainage in advance of each winter rainy season in the areas excavated for borrowing materials.

Notwithstanding approval of the intended method of working, the Contractor shall at all times be responsible for constructing works in accordance with the Specifications, the Design and drawings.

3.13.3. Prevention of pollution

The Contractor shall ensure that its activities do not result in any contamination of land or water by polluting substances.

The Contractor shall implement physical and operational measures such as oil and grease traps in drainage systems from workshops, service and fuel ingress, the establishment of sanitary solid and liquid waste disposal systems, the maintenance in effective condition of the same assures, the establishment of emergency response procedures for pollution events and dust suppression, all in accordance with normal good practice and to the agreement of the Supervisor.

3.13.4. Environmental considerations

The following environmental protection measures shall be observed during the execution of the construction of the works:

Demolition material- Reuse of demolition materials as backfill for trenches and excavations or/and hard fill for construction foundations and roadways is possible, unless contaminated or hazardous materials such as asbestos are identified. The Contractor will be responsible for environmentally safe disposal of any material resulting from the demolition and other site materials with approval from the relevant local Authorities at a designated licensed disposal facility.

Excavated soil - Reuse of excavated natural soil, which is free of cohesive components, salt, sulphate and/or clay materials, may be used as backfill for trenches and excavations. The Contractor will be responsible for environmentally safe disposal of surplus materials with approval from the relevant local Authorities at a designated licensed disposal facility.

Ground water - Temporary and/or permanent groundwater lowering may be required. The Contractor shall apply appropriate dewatering measures as required and shall also ensure that adequate measures are implemented to control surface water discharge.

Air pollution - Construction may give rise to dust and construction equipment exhaust emissions. Due note shall be taken of the proximity of residential housing to the works. The normal health and safety controls will be required to safeguard the residential and passing population.

Noise pollution - Construction works may cause annoyance caused by noise. The normal health and safety controls will be required to safeguard the residential and passing population.

Maximum noise levels - During construction works the Contractor shall comply with the local and national requirements. The Contractor shall be legally responsible and financially liable to observe Montenegrin environmental legislation.

The noise levels shall be in accordance with the relevant Montenegrin noise environmental legislative.

Noise and disturbance shall be kept to the reasonable minimum as far as required for this project. The Contractor's attention is drawn to the close proximity of some residential areas. All plant and tools used at such sites above or near ground level shall be silenced or of a silent type.

The Contractor shall take all necessary steps to ensure that its workmen carry out their duties in a quiet manner particularly when working at night.

Pollution prevention - the Contractor shall not pollute or unnecessarily disturb lands, roads and other places on and around the Site. No trees or other vegetation shall be removed except to the extent necessary for the Works.

Dust control- Dust shall be controlled and reduced by periodically spraying demolition works with water. Site operatives and general public shall be protected from hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.

3.13.5. Air quality

The Contractor shall devise and arrange methods of working to minimize dust, gaseous or other airborne emissions and carry out the Works in such a manner as to minimize adverse impacts on air quality.

The Contractor shall utilize effective water sprays during the delivery and handling of materials when dust is likely to be created, and to dampen stored materials during dry and windy weather.

Stockpiles of materials shall be sited in sheltered areas. Stockpiles of friable material shall be covered with clean tarpaulins, and sprayed with water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement, except where this is contrary to the Specification.

Any vehicle transporting no coherent material shall not be loaded to a level higher than the side and tail boards, and shall be covered with a clean tarpaulin in good condition. The tarpaulin shall be properly secured and extend at least 300 mm over the edges of the side and tail boards.

In periods of high wind, dust generating operations shall not be permitted within 200 m of residential areas having regard to the prevailing direction of the wind.

Construction vehicles and machinery shall be kept in good working order and engines turned off when not in use. Appropriate measures shall be taken to limit exhaust emissions from construction vehicles, machinery and plant.

An advance warning shall be given to potentially affected persons, so that some measures can be taken by them before commencement of works, especially before dismantling/demolition.

3.13.6. Noise

The Contractor shall consider noise as an environmental constraint in its planning and execution of the Works. The Contractor shall take all necessary measures to ensure that the operation of all mechanical equipment and construction processes on and off the Site shall not cause any unnecessary or excessive noise, taking into account applicable environment requirements. The Contractor shall use all necessary measures and shall maintain all plant and silencing equipment in good condition so as to minimize the noise emission during construction works.

3.13.7. Measures for decreasing the negative environmental impact

In order to mitigate negative environmental impact, the Contractor should propose necessary actions in its Environmental Management Plan (EMP), such as:

- To create adequate organization for execution of construction works which shall comply with local construction regulations;
- To provide water sprinkling of the construction site;
- To create organization for control on the facilities storing fuel and lubricants and on the technical condition of the machines in order to avoid accidental oil spills;
- Along the construction site, waste water should be treated and sedimentation tanks and oil separators should be placed if needed;
- To foresee the necessary maintaining and drainage measures for the construction site, access roads and service roads, in order limiting the erosion processes;
- To specify the quantity and type of waste and how its disposal is intended to be transported and removed from the site area;
- Measures for fast conservation of unfinished works at unfavorable conditions.

3.14. Site Clearance

Upon completion of each section of the Works, the Contractor shall clean up the site; remove all temporary buildings, plant and debris. He shall level off and fine grade all excavated materials which is surplus to Specifications. The whole of the site shall be left in a clean condition to the satisfaction of the Supervisor. A Final Certificate will not be issued before the Contractor has removed all his machinery, equipment, plant, waste material from the site and the site reinstated to the satisfaction of the Supervisor.

3.15. Traffic Specifications

The Contractor shall take all reasonable steps to prevent vehicles entering and leaving the Site depositing mud or other debris on the surface of adjacent roads or footways, and shall remove expeditiously any materials so deposited. The surfaced areas of the Sites shall also be covered by the Specifications of this clause.

The Contractor shall not make use of the public streets, roads, verges, thoroughfares or footpaths for disposing or storing equipment or materials.

3.16. Contractor's Equipment and Materials

Details of all Contractors' Equipment to be used by the Contractor in the execution of the Works shall be submitted to the Supervisor prior to its use.

The Supervisor's consent to use the Contractor's Equipment will not be unreasonably withheld, but if in the Supervisor's opinion circumstances arise which make it desirable that the use of the Contractor's Equipment should be suspended either temporarily or permanently, the Contractor shall change the method of performing the work affected and he shall be deemed to have no cause for claims against the Contracting Authority on account of having to carry out the work by another method, nor shall he be deemed to have cause for claim if any order issued by the Supervisor results in the Contractor's Equipment having to stand idle for a period of any duration whatsoever or having to be removed. In particular, where it is impossible due to the proximity of, and danger to, existing roads, structures, or services, to excavate except by hand methods, then in such cases it shall be deemed reasonable for the purpose of this clause for the Supervisor to withhold consent to use the Equipment.

All materials used shall be of the best quality as specified and described in the Specification, Design, Drawings and the Bills of Quantities.

The Contractor must secure the compliance with the Specification of materials or plant to be provided under this Contract before propose them for approval to the Supervisor.

The quality of the material has to be confirmed by the attests and suppliers' certificates, all according to TS and MNE regulations.

All materials implemented during construction shall be in compliance with the requirements of:

- Requirements of the local legislation (Law on construction products ("Official Gazette of Montenegro", no. 018/14 from 11.04.2014, 051/17 from 03.08.2017), Rulebook on construction products (Official Gazette of Montenegro "no.082/16 from 29.12.2016, 041/18 from 28.06.2018, 039/20 from 28.04.2020);
- Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 lying down harmonized conditions for the marketing of construction products;
- The present Technical Specifications;
- Requirements from the Main design.

All materials applied shall be accompanied with quality certificates to prove their concordance with the requirements set out in the design and the Specification.

The Contractor shall make diligent efforts to procure the specified materials. Where, due to different reasons, the materials required by the Contract are not available, substitute materials may be used but with the prior approval by the Supervisor.

Also, the following general Specifications shall apply:

- The Contractor shall provide adequate lighting where work is being executed at night and shall provide and install any additional lighting which the Supervisor may require in order to watch and supervise the Works and carry any testing and examination of materials.
- Materials available on the Site shall be used solely for the execution of the Works.

3.17. Quality Assurance

A comprehensive Quality Assurance System (QAS), covering all aspects of the Contract and the Works must be implemented, documented and maintained by the Contractor during the entire implementation period of the Contract.

The QAS shall as a minimum consist of:

- A Quality Assurance plan (QAP)
- A Control Plan (CP)

The Contractor shall make sure that the quality control complies with international standards. Guidance from the following international standards shall be taken from:

- ISO 9000 Standards for the quality control and assurance – Guideline for selection and utilization.
- ISO 9001 Quality system - Model for the quality assurance in conception development, production, installation, and after-sales support.
- ISO 9002 Quality system - Model for the quality assurance in production and installation.
- ISO 9003 Quality system - Model for the quality assurance in controlling and final tests.
- ISO 9004 Quality control and element of the quality system – Guidelines.
- ISO 45001: Occupational health and safety (OH&S) management system.

2.5.6. Quality Assurance Plan (QAP)

The QAP shall, as a minimum, cover the following issues:

- The Contractor's staff and management organization for the project, management plan and the quality assurance organization;
- The person responsible for the Contractor's QAS shall be authorized and qualified to take decisions on quality assurance issues, and his reference and communication lines to the Company's overall quality assurance organization and its responsible management shall be clearly shown;
- Persons performing quality control and testing shall be independent of those executing or supervising the:
 - Works;
 - Management of documents;
 - Management of procurement;
 - Management of sub-Contractors and suppliers, and Specifications to their QAS's;
 - Control of materials and workmanship, defects and material reconciliation, procedures for corrective actions, etc.
 - Handling of the deviations, additions or variations to the Contract Documents.
- The Contractor's system of management of current documentation for the execution of the Works shall include his sub-Contractors and suppliers, and shall detail:
 - How it is ensured that only valid and approved documents are used for the execution of the Works;

- The method of recording variations and amendments to the documentation.
- The Contractor's initial proposed Control Plan describing important and critical control activities based on the Tender Document and the Contractor's own consideration in respect of execution.

2.5.7. Control Plan (CP)

The Contractor shall present for approval of the Supervisor and the Contracting Authorities Representative his detailed CP for all quality assurance efforts or measures for the works or sections thereof. Such CP shall be presented to the Supervisor not later than one week after the commencement of the works.

The CP shall include controls as specified in the Contract as well as any other normal and special controls that the Contractor finds necessary in order to ensure the quality of his work. The CP shall for each control activity describe type, method, range, time/ frequency, criteria for approval and documentation and state who is responsible for performing the activity.

If the Supervisor does not approve the CP as submitted by the Contractor, then the CP shall be amended for further approval. Subsequent changes in the range and contents of the quality assurance work will not be allowed as a reason to extend agreed deadlines or to increase contract sums.

3.18. Billposting and Advertisement

The Contractor shall not undertake or allow bill posting or advertising of any kind upon the works without the written consent of the Supervisor.

3.19. Procedures for Complaints and Claims for Damages

Details of all claims or warnings of intended claims which the Contractor may receive in respect of matters against which he is required by the Contract to indemnify the Contracting Authority shall be notified without delay to the Supervisor, who shall likewise pass to the Contractor any such claims or warnings which may be submitted directly to the Supervisor or Contracting Authority.

A similar exchange of information shall also be made in relation to all complaints which may be received.

The Contractor shall notify the Supervisor in writing immediately following any damage arising out of the execution of the Works.

Section 4. Civil and Architectural Works

4.1. General conditions for execution of works

The Contractor shall be responsible to construct all the works in accordance with all design documentations, Montenegrin and European standards, construction best available practice and any other relevant documentation forming part of the Tender Dossier.

The Contractor is fully familiar with all details of the submitted Design, as well as with all local regulations, local standards (MEST), common practice of trade and circumstances for their execution, nevertheless, it is understood that, whenever local regulations, local standards (MEST), or any common practice of trade, are subject to any interpretation, clarification, ambiguity, or dispute, a ruling by the Supervisor will prevail, always provided that such ruling will be fully in compliance with and will be based on the subject local regulations, local standards (MEST), including, but not limited to:

ICS number	Standard number	Year	Title
91.200	MEST ISO 4463-1:2017	2017	Measurement methods for building-Setting-out and measurement -Part 1: Planning and organization, measuring procedures, acceptance criteria
	MEST ISO 7976-1:2017	2017	Tolerance for building-Methods of measurement of buildings and building products-Part 1: Methods and instruments
	MEST ISO 7976-2:2017	2017	Tolerance for building-Methods of measurement of buildings and building products-Part 2: Position of measuring points

As well as in accordance with common practice of construction works, and any such ruling by the Supervisors and subsequent instruction in that respect, will not constitute any ground for variation order and/or any additional payment.

All works must be carried out precisely and professionally. Prior to execution of the works/application of any material and/or equipment, the Supervisor must examine all material/equipment and all his comments referring to material/equipment and quality of work will be obligatory for the Contractor.

The Contractor will be responsible for all damages caused by the Contractor during any works, to any third party, structure, main building or adjacent buildings, and all repair works and compensations of any kind will be at the Contractor's expense.

The Contracting Authority will provide to the Contractor the access to building site. All other matters in this regard will be the competence of the Contractor.

It is also considered that the Contractor's will be responsible for safeguarding of the building site and maintenance of existing structure and/or building all the time during the progress of the works until completion and acceptance of the building by the Contracting Authority.

Upon the completion of the works, the Contractor will remove from the building site and other used areas all his tools, machinery, surplus material, etc. so as to have the site neatly arranged as defined in the technical documentation, and all other areas restored in same condition as before the construction.

Coding of each specific technical specification for any type of works given in this Technical Specification, and subsequently in the BoQ, is based on the International Classification for Standards - ICS, providing comprehensive correlation between the international and local standards. "The Institute for Standardization of the Montenegro" ("Institut za Standardizaciju Crne Gore") <https://www.isme.me/catalog> within its Catalogue provides numerous updated tables enabling connection between international and local standards, as well as, updated review of old MNE standards which have been either withdrawn or replaced or simply renamed.

Unforeseen works or changes to the work and/or materials and equipment the Contractor shall announce prior to execution. In this case, the Contractor is obliged to submit additional offer which must be contain analyzes according to the standards. The Contractor is obliged to submit all changes to the Supervision for approval.

The agreed unit prices include all works, material, scaffolding, transportation, use of tools, equipment or machines etc., to provide fully completed and accepted position of the works.

These general conditions apply to each item of BoQ separately.

Dismantling and Demolition Works

The contractor is obliged to perform all works from this group of works carefully, taking care not to damage materials and equipment that are not predicted for dismantling or demolition, as well as the already performed position works. All damages caused by the Contractor's negligence shall be repaired by the Contractor at his own expense.

The obligation of the Contractor is to hand over all dismantled / demolished material and/or equipment to the End User or take it to the landfill determined by Authority, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.

Instruction which material shall be hand over to the End Recipient or driven away to the landfill, will be given to the Contractor by the Supervisor.

Masonry Works

General

All masonry work must be carried out by qualified manpower, using the appropriate tools and machines for this kind of works.

Brick laying shall be made by skilled and with qualified workers power, and according completely to legislation, this technical description and the Main Design.

Vertical and horizontal joints will be completely filled by mortar, without hollows. Thickness of mortar in joints will not be over 12 mm. Joints at outer surface will be left empty for about 15-20 mm, to provide better adhesion of mortar during plastering. Any mortar leaking will be removed immediately. Trimming of bricks and/or hollow clay blocks will be made by machinery equipment.

The Contractor, on his own expense, will provide for all required and necessary material

related to manufacturing shattering, formworks, scaffolding, as well as for timbering & bracing of trenches & foundation pits. The Contractor will remain owner of all said material and equipment and will be under the obligation to remove the same from the Site when required. Any instruction intended to improve safety and/or quality of shattering, formworks, scaffolding and timbering & bracing of trenches & foundation pits will not be considered as an additional work under any circumstances.

Internal walls

Internal walls shall be of porous light autoclaved concrete wall blocks AAC with standard dimensions and width of 200/250 mm and with dry density min 500 kg/m³ of the blocks. The construction of the internal walls shall be done with using cement-based adhesive as specified by the block manufacturer for this purpose, (prefabricated mortar: sand, cement, hydraulic lime and additives). The masonry should be done according to the manufacturer's instructions, for connection, anchoring/mooring, etc.

Indicate all required properties, such as:

Size Length of 625 mm, Height of 200 mm, Thickness 100/120 mm

Compressive Strength 2,5 MPa

Normal Dry Density at least 400 kg/m³

Sound Absorption 33 dB (without mortar)

Thermal Conductivity $\lambda = 0.120$ W/mK

Thermal Resistance ≥ 120 mins

Girders (tie-columns and tie-beams) of masonry walls

The walls must be confined with the reinforced concrete tie-columns/beams, dimensions of 200/250 mm length and varying widths as per the brick width, at least in height every 2250 mm on the ground floor and 2200 mm on the other floors, at maximum distance of 5000 mm. The tie-column should be made at free end of the wall as well as at the top of every new wall. Girders shall be constructed as cast in-situ concrete C25/30. While reinforcement is 4RØ12 steel bar and Ø8 for stirrups at 15 cm distance in line with the Eurocode.

Plaster and Mortars

Type A

Gauged Mortar with river washed sand free of fines and organic materials mixed in the ratio of:
cement: lime: sand = 1: 0,8: 8

Type B (for brickwork)

Gauged Mortar with river washed sand free of fines and organic material mixed in the ratio of:
cement: lime: sand = 1: 0,5: 5,5

Type C (for toilets areas and external skirting)

Cement Mortar with clean sharp sand washed and free of fines and organic material mixed in the ratio of: cement: sand = 1:2.

The present chapter refers but it not limited to the coating of the internal and external surfaces of the building that shall be plastered according to the EN 998, where not otherwise indicated. Provide asbestos-free materials. Working conditions, application equipment etc., shall all be strictly in accordance with the appropriate manufacturer's instructions.

Cement screed as base for floors skirting

Levelling screed shall be applied in all areas of flooring. Final top surface of different flooring must be equalized. Final top surface shall be cleaned, and the dust removed, and it shall be levelled using cement-based levelling compound, which should be allowed to dry.

On the floors of the building, acoustic/thermal insulation and cement mortar should be in the form of a levelling layer of light aggregate porous concrete on other pipes with a thickness of 1: 3 and up to 60 mm. The cement mortar should be semi-dry (with as little water as possible). Works shall be commenced if the ambient temperature in work area is at least 10°C and rising. The ambient temperature shall be above 10°C while work is in progress and for at least 3 days after its completion. Use of adhesives in unventilated areas is forbidden.

Technical Features of Cement Screed:

Compressive Strength: C25

Flexural Strength: F4

Reaction to Fire: A1

Release of Corrosive Substances: CT

Wall and ceiling plasters

This item is covering the applications of plastering of internal walls and ceilings where applicable in accordance with the detailed design details.

Plaster of walls and ceilings of dry rooms shall be built up with a compatible primer coat and 10 mm thick mineral lime-gypsum plaster. It shall be machine or hand applied.

Preparation, application, tools and equipment etc., shall all be strictly in accordance with the reputed manufacturer's instructions.

Plaster on sanitary area walls, boiler rooms, or external surfaces shall be mortar Type C (cement mortar).

Standards

The Contractor shall carry out the works described in accordance with the appropriate standards or equivalent local or international standards. The main standards are, but shall not be limited by the following:

No.	ICS Number	Standard Number	Title
1.	91.100.10	MEST EN 998-1:2017	Specification for mortar for masonry - Part 1: Rendering and plastering mortar
2.		MEST EN 998-2:2017	Specification for mortar for masonry - Part 2: Masonry mortar
3.	91.100.15	MEST EN 13139:2009	Aggregates for mortar
4.	91.100.25	MEST EN 771-1:2016	Specification for masonry units - Part 1: Clay masonry units

Measurement and Payment

The calculation of the works is made per measurement unit, indicated for each item. The unit price will include execution of the complete item (supply of material, external, all horizontal and vertical site transport, safety measures, scaffolding, required formwork) and other activities necessary for proper execution of the works.

Insulation Works

The Contractor shall submit to the Supervisor for his approval complete details of the proposed waterproofing system specified in the drawings. The submittal shall include specifications, technical literature, safety measures and samples. - Vertical up stand details;

The water proofing system shall be applied by specialized experienced workers.

Waterproofing works shall be implemented for the waterproofing of:

- Hydro-insulation membrane coated from both sides with a high-quality bitumen mass, produced from special bitumen, enriched with elasticizers based on specially chosen rubbers and quality mineral fillers, min. 4 mm of thicknesses in rooms on ground floor
- Wet and sanitary areas hydro-insulation based on cement-polymer mortars, according to Supervisor instructions.

a) Hydro insulation on the ground floor slab

The installation of horizontal waterproofing on the ground floor plate with these layers: one layer of bitumen paint/mass, two layers of bitumen waterproofing thickness 4 mm (one with shall be welded).

All materials shall be stored and used strictly in accordance with the manufacturer's instructions. The surface must be hard, sound and free of dust, dirt and other barrier materials such as paint, lime coatings, plaster and adhesive residues, etc. In cases where there is a rough surface, it shall be levelled according manufacturer's instructions.

Elastic bituminous primer shall be applied to the blinding concrete. It shall be a cold fluid bituminous based coat applied by brush roll. It shall be compatible with the following waterproofing layer.

Working conditions, application equipment etc., shall all be strictly in accordance with the reputed manufacturer's instructions.

b) Horizontal and vertical hydro insulation based on cement-polymer mortars

Toilets floors and concrete parapets under glass walls shall be waterproofed with two coats of a two-component fiber-reinforced mortar, with very low elastic modulus, containing fine particle size selected aggregates and adequate additives for waterproofing. Waterproofing on the walls in the toilettes shall rise to 15 cm above the finished floor level, including the fiberglass meshes on angels of the toilets. Particular attention shall be paid to sealing the around the floor drains and opening for installation to prevent leakage.

Working conditions, application equipment etc., shall all be strictly in accordance with the reputed manufacturer's instructions.

Thermal insulation in floors, walls, ceilings and roofs

Thermal - acoustic insulation shall be laid in the roof and flooring applications, all in accordance with the main design drawings.

a) Thermal Insulation on floors

The thermal insulation on the floor shall be made of extruded polystyrene boards with a smooth surface structure with volume weight of 30 kg/m³, thickness 20-50 mm.

Thermal insulation will be applied on all floor slabs of the building. On the upper side of the isolation PE sheet should be applied. TI shall be produced by appropriate manufacturer and the working conditions, application equipment etc. shall all be strictly in accordance to the manufacturer's instructions.

- Thermal coefficient $\lambda = 0,033 \text{ W/mK}$ (d=30mm)
- Permissible compressive load (2% compressibility): 130 kPa
- Fire class: "E" (according to EN 13501-1)

Standards

No.	ICS Number	Standard Number	Title
1.	91.100.50	MEST EN 13969:2009	Flexible sheets for waterproofing - Bitumen damp proof sheets including bitumen basement tanking sheets - Definitions and characteristics
2.		MEST EN 13956:2014	Flexible sheets for waterproofing - Plastic and rubber sheets for roof waterproofing - Definitions and characteristics
3.	91.100.60	MEST EN 13164:2016	Thermal insulation products for buildings - Factory made extruded polystyrene foam (XPS) products - Specification

Sheet Metal Works

A) Flat metal sheets

Flat metal sheets, hot-dip galvanized (Z165) steel sheet, PVC coated steel sheet, 0,55 mm thick, up to corrosive class C4, RAL 3009 of the metal sheet.

Polymer Coated Metal Sheet:

Thickness: 0,55 mm

Weight: 4,40 kg/m²

Metal flashing shall be provided with expansion joints on long runs to prevent deformation of the metal sheets. The selected metal shall not stain or be stained by adjacent materials or react chemically with them.

B) Trapezoidal steel sheet

Trapezoidal metal sheets 35/200, hot-dip galvanized (Z165) steel sheet, PVC coated steel sheet, 0,55 mm thick, up to corrosive class C4, color RAL 3009.

Polymer Coated Metal Sheet:

Thickness: 0,55 mm

Weight: 5,70 kg/m²

The selected metal shall not stain or be stained by adjacent materials or react chemically with them.

Aluminum Doors, Windows and Glass Doors

Aluminum

The present activity mainly refers but it is not limited to supply, fixing and handing of doors, windows, glass walls and assemblies, complete and in accordance with Main Design and Supervisor instructions.

The schemes of the doors, windows, glass walls and assemblies presented in Main Design and Volume 5 of this TD shall be the guide for this item, but all the measurements shall be re-checked on site before the start of manufacturing.

Aluminum work and glazing shall be carried out in strict accordance with the requirements of the applicable Building Code requirements and applicable EU standards:

No.	ICS Number	Standard Number	Title
1.		MEST EN 12207:2019	Windows and doors - Air permeability - Classification
2.		MEST EN 12208:2019	Windows and doors - Watertightness - Classification
3.		MEST EN 12210:2019	Windows and doors - Resistance to wind load - Classification
4.	91.060.50	MEST EN 12365-1:2009	Building hardware - Gasket and weatherstripping for doors, windows, shutters and curtain walling - Part 1: Performance requirements and classification
5.		MEST EN 1121:2009	Doors - Behavior between two different climates - Test method
6.		MEST EN 12051:2009	Building hardware - Door and window bolts - Requirements and test methods
7.		MEST EN 179:2011	Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods
8.	91.190	MEST EN 1125:2009	Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods
9.		MEST EN 1935:2010	Building hardware - Single-axis hinges - Requirements and test methods

10.	87.020	MEST EN ISO 12944-5:2021	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems (ISO 12944-5:2019)
11.	81.040.20	MEST EN 673:2011	Glass in building - Determination of thermal transmittance (U value) - Calculation method

Samples of all profiles and/or elements are to be submitted to the Supervisor for approval and the elements used throughout the works are to be equal in all respects to the approved sample having particular regard to consistency of grain and color where this is of visual importance to the finished works.

All necessary mortising, tendon making, grooving, matching, tonguing, housing, rebating and all other work necessary for correct jointing shall be executed in accordance with the relevant standards.

TILING WORKS

The work shall be carried out by the labor qualified for this type of works. The selection of colors and design shall be made with the consent of the Supervisor, unless otherwise indicated in a separate description. Damaged tiles and tiles of poor quality must not be set.

No.	ICS Number	Standard Number	Title
1.	91.100.23	MEST EN 14411:2018	Ceramic tiles - Definition, classification, characteristics, assessment and verification of constancy of performance and marking
2.	83.180, 91.100.10	MEST EN 12004-1:2018	Adhesives for ceramic tiles - Part 1: Requirements, assessment and verification of constancy of performance, classification and marking
3.	83.180, 91.100.10 91.100.30	MEST EN 12004-2:2018	Adhesives for ceramic tiles - Part 2: Test methods
4.	91.100.25	MEST CEN/TR 13548:2020	General rules for the design and installation of ceramic tiling
5.	91.100.23	MEST EN 17160:2020	Product category rules for ceramic tiles

Flooring works

The vinyl flooring is installed with adhesive. Prior the installation of the vinyl flooring preparation of underlayer must be executed.

The material used shall be of high quality and produced by appropriate manufacturer and the working conditions, application equipment etc. shall all be strictly in accordance to the manufacturer's instructions.

SUSPENDED CEILINGS AND LINING WORKS

General

Installation of all suspended ceilings and plasterboard lining with appropriate professional workforce, with the full application of modern tools intended for this type of work.

All used materials, connecting and binding agents, protective equipment must have required quality and certificates.

Works must be carried out well, according to regulations, standards, technical documentation and certified constructive details. The method and direction of setting suspended ceiling performed according to the description and details of the project, with a mandatory consent of the Supervisor.

Prior the installation samples of the ceiling must be submitted to the Supervisor for approval.

During the execution of works, respectively until finishing them, the contractor is obliged to take all necessary measures, in order not to damage these works. If it the case, the contractor will bring the works to the designed state at his own expense with the consent of the supervising authority.

Calculation per unit indicated at each position of works. Unit price includes production of a complete position of works, (procurement of basic, binding and protection material, material for smoothing and impregnation, external and internal transport, construction, protective measures, all horizontal and vertical transfers, necessary scaffolding, cleaning and other activities that are necessary for high quality of these works). This description is an integral part of each individual position of works and it does not exclude the application of applicable regulations in the construction industry in this area.

No.	ICS Number	Standard Number	Title
1.	91.100.10 01.040.91	MEST EN 520:2017	Gypsum plasterboards - Definitions, requirements and test methods
2.	91.100.10 91.100.60	MEST EN 13950:2016	Gypsum board thermal/acoustic insulation composite panels - Definitions, requirements and test methods

3.	91.060.30	MEST EN 13964:2016	Suspended ceilings - Requirements and test methods
4.	91.100.10	MEST EN 13963:2016	Jointing materials for gypsum boards -Definitions, requirements and test methods
5.	91.100.60	MEST EN 14303:2016	Thermal insulation products for building equipment and industrial installations - Factory made mineral wool (MW) products - Specification

Façade Works

External walls shall be insulated with thermal insulation to match the requirements for the contact facade.

Fixing shall be done in according to design details and manufacturer's specification.

The Façade as presented in the architectural design should be composed of:

- Finish coat, paint / impregnation
- Primers
- Mat reinforcement
- Basecoat
- EPS insulation material with system dowels
- Adhesive
- Masonry / concrete with or without plaster

Adhesive and basecoat

Ready-to-use organically bonded fiber and siloxane reinforced adhesive/basecoat with mineral-based lightweight aggregates for high yields. Product shall be in compliance with EN 15824

EPS insulation material with system dowels

Thermal isolation boards made of EPS (expanded polystyrene), thickness d=50mm/80mm, with following characteristic:

- Thermal conductivity λ_D : 0,038 W/mK
- Permissible compressive load (2% compressibility): 20 kPa
- Fire class: "B" (according to EN 13501-1)

Insulation anchor nails with the option of screwing in a compound screw nail for thermal facade systems.

The insulation anchor nail/dowel consists of a combination of fiber-glass reinforced polyamide and galvanized steel, the dowel anchor sleeve is made of polypropylene and the dowel plate is also made of fibre-glass reinforced polyamide. With its integrated compression crumple zone and a dowel plate thickness of just 2.5 mm, the dowel plates are placed exactly flush in the insulation material.

Mat reinforcement

Reinforcing mesh 4x4 mm or 5x5 mm;
Mesh reinforcement joint overlap ≥ 100 mm.

Finish coat

Ready-to-use, paste-like silicone resin plaster for non-directional textures, in compliance with EN 15824. Resistant to soiling, highly vapour permeable, highly water-repellent, Retards and prevents the formation of mould and algae. Color RAL 9010, 7046, 1019. (Color distribution is given in Main Design)

The surface of the substrate must be dry, even and free of grease and dust as well as free of any residual substances that may reduce the adhesion. Check the stability of existing coatings (paint coatings and old plasters) and compatibility with adhesive, and remove unstable coatings completely if necessary. Ensure that all openings (interface gaps) are sealed.

The contractor is solely responsible for inspecting the condition of the substrate and the on-site conditions.

The ambient temperature, substrate and material temperature must be at least +5 °C and may not exceed +30 °C during the entire application, drying and setting phase.

Unfavorable weather influences such as high temperatures, wind or direct sunlight can change the application conditions.

The surface of the wall must be flat, dry and free of grease and dust.

Unevenness in the substrate up to a maximum of 20 mm can be covered with the adhesive if dowelling is used in addition to adhesive bonding. Major unevenness should be equalized using a suitable plaster layer or by staggering the insulation panel thickness. The bond strength of the plaster should be tested after it has set.

Edge ribbon and dab bonding is performed by hand. The adhesive bonding surface with the substrate is ≥ 40 % after pressing in the insulation panels. Apply an approx. 50 mm wide ribbon of mortar around the perimeter and 3 palm-sized adhesive dabs or strips on the insulation panel.

Install the plinth connection end profile horizontally and fix using anchor nails at spacings of approx. 300 mm. Compensate for substrate tolerances with washers. Connect the joints and the plinth connection end profiles with H connectors. Apply insulation panels immediately to the fresh adhesive by pushing, floating and pressing.

Apply the insulation panels precisely and continuously starting from the bottom with the joints staggered at ≥ 100 mm (half panel length recommended for joint staggering). Cross joints, e.g., on opening corners should be avoided.

The wall must be sufficiently stable to allow the use of dowels.

The number of dowels is 6/m². Application of the dowels can commence after the adhesive has hardened sufficiently. The diameter of the drill must be ≥ 8 mm. Do not use impact or hammer drills on hollow or perforated bricks or masonry. Arrange the drill holes so that the concrete reinforcement is not damaged. Drill hole depth = dowel length + 10 mm (or +25 mm with recessed dowel installation). Clean the drill holes before the dowels are applied. Do not use worn drill bits. Resharpening of the drill bit is not permissible. Under the mesh the installation can be flush to the surface or recessed in the surface. When applying dowels through the reinforcement mesh the dowels can only be placed surface flush. The dowel must be set in the fresh basecoat layer after the application of the basecoat and the embedding of the reinforcing mesh. Then immediately (wet plaster on wet plaster) apply a second layer of basecoat. The substrate temperature must be ≥ 0 °C when placing a dowel. The exposure to UV light with direct exposure to sunlight for the dowel and insulation panel may not exceed 6 weeks.

Embed reinforcement mesh on the entire surface with at least a joint overlap of 100 mm fresh-in-fresh in the basecoat layer. Apply a full covering of basecoat to the mesh.

The mesh is arranged in the center when the basecoat thickness is up to 4 mm, for > 4 to 7 mm layer thickness it is in the upper half of the basecoat layer and for > 7 mm in the exterior third. Avoid excessive smoothing of the reinforcement layer to prevent a

concentration of fine particles or formation of a sinter layer on the surface. Rub off any burrs that have formed when drying. Plaster connections should be separated with a separating tape, separation strip, profiles or similar from the constructional components.

Before application of a further coating (primer) it is important to ensure that the basecoat is fully dry. The minimum drying time is generally approx. 1 day/mm layer thickness. With **unfavorable** weather conditions (e.g., high levels of air humidity or low temperatures) the drying time is extended.

Ready-to-use, paste-like final coat must be mixed thoroughly. When necessary, a small quantity of water may be added to set the application consistence. Apply mixture (floated render texture) with a stainless-steel trowel in grain size $d=2,0$ mm to the entire surface and trowel smooth with circular movements without interruption using a hard plastic trowel. Use a trial coat to ensure the color shade is correct. Always complete surfaces that can be viewed together on the same day.

The contractor is solely responsible that all components of thermo isolated façade are compatible.

PAINTING WORKS

Painting works shall be performed by professional workers, appropriate tools and material which is in accordance with technical regulations, norms and standards. All used material shall meet in accordance with applicable standards and this technical documentation.

CARPENTRY WORKS

All work on roof surfaces should be done with quality material. The price includes the purchase and installation of all necessary materials, auxiliary elements and tools for the production of these works. All works that precede the construction of roof works must be carried out in the appropriate sequence. Before the start of the roof works, the control and verification of the correctness of the performed works must be carried out, which could affect the stability, quality and durability of the installed material, and the findings must be entered in the construction diary. All materials intended for the treatment of roof surfaces must be correct and according to their composition, physical-mechanical properties, shape and color correspond to the designed conditions. For all material installed on the roof surfaces, it is mandatory to attach appropriate certificates from the manufacturer. It is necessary that the work on the roof surfaces is carried out by an organization specialized in this type of work. The calculation for these works is done per m² of covering works performed. All works should be performed from healthy and dry sawn timber (spruce, pine, etc.), according to the description of the item in question in the cost list.

4.2 UNIT PRICE DESCRIPTIONS

BoQ Item	B1.1.	Unit	m2
Unit price definition	Removal and installment of existing furniture and equipment		
Description	<p>Removal of existing furniture and equipment from the rooms which are intended for refurbishment. Furniture and equipment should be temporary dislocated and installment after competition of the works in same positions at the premises after finishing of the works.</p> <p>The unit price include removal and return of the furniture and equipment at previous locations. All damaged furniture and/or equipment caused by the Contractor shall be replaced by the expense of the Contractor.</p> <p>Calculation per m2 of room area.</p>		

BoQ Item	B1.2.1/B1.2.2/B1.2.3	Unit	m2
Unit price definition	Demolition and Removal the existing Floors		
Description	<p>Demolition and removal the existing flooring down to the concrete slab with all layers up to 10cm thick. Finishing floor layer are different: ceramic tiles, parquet, vinyl/linoleum, laminate or concrete. The work item includes the removal of the corresponding ceramic edge tiles and edge profiles, which will not be paid separately. Carefully demolish the floor layers, level and clean the floors surfaces, load the rubble and take it to the landfill. Calculation per m2 of demolished floor, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.</p>		

BoQ Item	B1.3.	Unit	m2
Unit price definition	Demolition of Partition Walls - d=15cm		
Description	Demolition of internal partition walls, total thickness d=15, together with cladding (mortar + dispersion). Carry out the demolition carefully without damaging the retaining walls, collect the rubble, take it out, load it on a truck and take it to the city landfill up to 20 km away.		

BoQ Item	B1.4.	Unit	m2
Unit price definition	Demolition of Wall Ceramic Tiles		
Description	Demolition of wall ceramic tiles, up to wall structure (concrete or masonry wall), regardless of whether the ceramic tiles are glued or installed with cement mortar. Carefully remove the ceramic tiles, level and clean the wall surfaces, and load the waste and take it to the landfill. Calculation per m2 of demolished wall ceramic tiles, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.		

BoQ Item	B1.5.	Unit	m3
Unit price definition	Demolition of façade walls, d=25cm		
Description	Demolition of facade walls, total thickness d=25, together with cladding (mortar and mortar + dispersion). Carry out the demolition carefully without damaging the retaining walls, collect the rubble, take it out, load it on a truck and take it to the city landfill up to 20 km away. Calculation per m2 of the demolished wall, complete according to the description. Calculation per m2 of demolished wall ceramic tiles, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.		

BoQ Item	B1.6.	Unit	m'
Unit price definition	Demolition of the parterre fence		
Description	Demolition of the parterre fence made of metal profiles on the newly built plateau. The length of the fence is cca 2x1000cm and the height is 95cm. Demolished elements load on a truck and transport them to a landfill. Calculation per m' of dismantled fence, with transportation to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.		

BoQ Item	B1.7.	Unit	m2
Unit price definition	Demolition of the ground concrete slab, d=10cm		
Description	Demolition of the concrete slab in front of the newly formed entrance with an average thickness of 10 cm. The Contractor shall execute demolition carefully, collect the rubble, take it out, load it on a truck and take it to the landfill. Calculation per m2 of demolished slabs, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.		

BoQ Item	B1.8.	Unit	pcs
Unit price definition	Dismantling of Interior/Exterior Glass Walls/Doors/Windows		
Description			
Dismantling of interior and exterior glass walls, doors and windows of various dimensions and materials (wood, steel, PVC or aluminum). Dismantled glass walls, doors and windows load on a truck and transport them to a landfill.			
Unit price includes dismantling of window sills, associated frames and other elements. Calculation per piece of dismantled glass wall, door or window, with transportation to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.9.	Unit	m2
Unit price definition	Removal of PVC locks on the added part above the existing canopies		
Description			
Removal of PVC locks on the added part above the existing canopies. Carry out the demolition carefully without damaging the retaining walls. Calculation per m2 of dismantled glass wall, door or window, with transportation to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.10.	Unit	m'
Unit price definition	Breaking out of lintels at the openings		
Description			
Breaking out of lintels at the openings of the boiler room, janitor (ground floor) and archives (first floor) up to 10 cm, in accordance with project documentation. The position also includes the deposit of rubble at the city landfill up to 20 km away. Calculation per m2, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.11.	Unit	pcs
Unit price definition	Dismantling of protective metal nets on the ground floor windows		
Description			
Dismantling of protective metal nets on the windows of the ground floor. Carry out the demolition carefully without damaging the retaining walls. The size of the net is 220x115cm. The position also includes depositing at the city landfill up to 20 km away. Calculation per pcs of demolished metal nets, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.12.	Unit	pcs
Unit price definition	Dismantling the ladder in the upstairs storage room		
Description			
Demolition of internal metal ladder in the upstairs storage room. Dimensions of the ladder is cca - 60x250cm. The Contractor shall execute the demolition carefully, collect the rubble, take it out, load it on a truck and take it to the landfill. Calculation per pcs, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.13.	Unit	pcs
Unit price definition	Dismantling the existing stairs in the first floor classroom		
Description			
Dismantling the existing stairs in the first floor classroom. Stair dimensions/ a=23cm, h=16cm, b=90cm. The Contractor shall execute the demolition carefully, collect the rubble, take it out, load it on a truck and take it to the landfill. Calculation per pcs, with removal of rubble to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.14.	Unit	pcs
Unit price definition	Dismantling the existing ramps on the metal substructure		
Description			
Dismantling the ramps on the metal substructure on the ground floor staircase. Ramp dimensions - 90x120cm. Dismantling must be carried out carefully and disposed of in a facility designated by the Investor. The position also includes depositing at the city landfill up to 20 km away. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense.			
Calculation per pcs.			

BoQ Item	B1.15.	Unit	m2
Unit price definition	Dismantling of the roof covering of the newly built storage room above the canopies		
Description Dismantling of the roof covering of the newly built storage room above the canopies. The covers shall be removed complete with the corresponding anchors. The position also includes depositing at the city landfill up to 20 km away. Collect all the waste, remove it, load it on a truck and take it to the landfill located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials. Calculation per m2 of dismantled metal roof sheet cover.			

BoQ Item	B1.16.	Unit	m2
Unit price definition	Removal of all layers of the roof on the canopies above the ground floor classroom		
Description			
Dismantling of the roof covering with the substructure on the bay windows above the classrooms on the ground floor. Dismantling implies the removal of all elements under the sheet metal covering (rafters, beams, etc.). The position also includes depositing at the city landfill up to 20 km away.			
Calculation per m2. Collect all the waste, remove it, load it on a truck and take it to the landfill located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			
Calculation per m2 of dismantled metal roof sheet cover.			

BoQ Item	B1.17.	Unit	m2
Unit price definition	Dismantling of the complete existing tin sheathing made of steel galvanized sheet - guttering of attic roofs		
Description Dismantling of the complete existing tin sheathing made of steel galvanized sheet - guttering of attic roofs. The stanchions are removed complete with the associated anchors. Collect all the rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away. Calculation per m' of removed cladding.			

BoQ Item	B1.18.	Unit	m'
Unit price definition	Dismantling of horizontal gutters together with holders.		
Description			
Dismantling of horizontal gutters together with holders. Gutters are removed complete with associated anchors. All necessary work, material and scaffolding should be included in the price. Collect all the rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away, including payment of the fee for disposal of waste materials.			
Calculation per m' of horizontal gutter.			

BoQ Item	B1.19.	Unit	m'
Unit price definition	Dismantling of gutter verticals		
Description			
Dismantling of downspouts (vertical gutters). Downspouts shall be removed complete with belonging anchors. The Contractor shall perform dismantling carefully in order not to damage the existing facade and the connection joint of the horizontal gutter into downspout. The price includes all necessary work, materials and scaffolding. Collect all the waste, remove it, load it on a truck and take it to the landfill.			
Calculation per m1 dismantled downspout with transportation to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials. Calculation per m' of vertical gutter.			

BoQ Item	B1.20.	Unit	m2
Unit price definition	Dismantling the tin roof covering with all the existing elements underneath (rafters, beams, clamps, insulation, ceiling paneling, etc.)		
Description Dismantling of the roof covering. Dismantling involves the removal of the tin roof covering with all the existing elements underneath (rafters, beams, clamps, insulation, ceiling paneling, etc.). Collect all the rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away, including payment of the fee for disposal of waste materials. . Calculation per m2.			

BoQ Item	B1.21.	Unit	m2
Unit price definition	Dismantling of wooden slats from the exposed part of the roof structure		
Description			
Dismantling of wooden slats from the exposed part of the roof structure. Contractor shall dismantle carefully, collect the rubble, take it out, load on truck and take it to the landfill. Calculation per m2 of removed wooden slats with substructure, with transportation to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			

BoQ Item	B1.22.	Unit	m2
Unit price definition	Dismantling of the suspended ceiling in the renovated classroom on the first floor		
Description			
Dismantling of the suspended ceiling in the renovated classroom on the first floor. The demolition shall be executed carefully not to damage the existing concrete walls. Suspended callings are made of metal slats, gypsum board. Unit price includes removal, collecting the debris, take it out, load it on a truck and take it to the landfill, located at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials.			
Calculation per m2 of demolished suspended ceiling including substructure.			

BoQ Item	B1.23.	Unit	m2
Unit price definition	Removal/scraping of the surface layers of the walls in the building		
Description			
Removal/scraping of the surface layers of the walls in the building (fat paint/ trowel with finishing). Collect all the rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense. Calculation per m2.			

BoQ Item	B1.24.	Unit	m2
Unit price definition	Removal/ scraping of the surface layers of the ceiling in the classrooms on the ground floor		
Description Removal/ scraping of the surface layers of the ceiling in the classrooms on the ground floor. Collect all rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense. Calculation per m2.			

BoQ Item	B1.25.	Unit	m2
Unit price definition	Removal/scraping of the surface layers of the walls in the Removal/scraping of the surface layers of the beams in the hall of the building		
Description Removal/scraping of the surface layers of the beams in the hall of the building. Collect all rubble, remove it, load it on a truck and take it to the city landfill up to 20 km away. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense. Calculation per m2.			

BoQ Item	B1.26.	Unit	pcs
Unit price definition	Dismantling of the existing cast iron radiators in the building		
Description			
Disassembly and reassembly of iron radiators with testing, rinsing, cleaning and painting. Radiators must be carefully dismantled, stored and reassembled after finishing the walls. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense. Calculation per piece.			

BoQ Item	B2.1.	Unit	m3
Unit price definition	Supply and construction of facade walls (parapet) with ACC-gas concrete wall block, d=25cm		
Description Supply and construction of facade walls (parapet) with 25 cm thickness ACC-gas concrete wall block. The construction of walls and material used for join mortar must be in accordance with the instructions of the block manufacturer. Connect the walls to the RC structure with steel anchors in the third row of height, and every second block of the last row must be fastened to the floor slab structure with a steel reinforcing anchor, in all respects according to the instructions of the block manufacturer. In the walls, execute tie-columns and tie-beams made of reinforced C25/30 concrete, reinforcement steel rebar $\pm 2\varnothing 14$ and 8/15 cm stirrups. Execute the tie-beams in all walls at the height of the door opening and on the top of parapets. Execute tie-columns on the side of all door openings where the cross section is small to be the installed in brick walls, on free ends of the wall, at intersection of walls, in the middle of walls longer than 5,0 m. All tie-beams and tie-columns are interconnected, and connected to the reinforced concrete structure. The cross section of tie-columns and tie-beams for 30cm thick walls is 30,0 x 30,0 cm. Tie-beams and tie-columns are not calculated separately but are included in the wall unit price together with reinforcement and formwork. The price per unit of measure includes all the obligatory seismic protection blocks, necessary tools, work, transport, material, scaffolding and any other item to competition of item. Calculation per m3 of executed wall with opening deduction.			

BoQ Item	B2.2.	Unit	m3
Unit price definition	Supply and construction of opening in archive room with ACC-gas concrete wall block, d=25cm		
Description			
Supply and construction of opening in archive room with 25 cm thickness ACC-gas concrete wall block. The construction of walls and material used for join mortar must be in accordance with the instructions of the block manufacturer. Connect the walls to the RC structure with steel anchors in the third row of height, and every second block of the last row must be fastened to the floor slab structure with a steel reinforcing anchor, in all respects according to the instructions of the block manufacturer.			
In the walls, execute tie-columns and tie-beams made of reinforced C25/30 concrete, reinforcement steel rebar ± 2Ø14 and 8/15 cm stirrups. Execute the tie-beams in all walls at the height of the door opening and on the top of parapets. Execute tie-columns on the side of all door openings where the cross section is small to be the installed in brick walls, on free ends of			

the wall, at intersection of walls, in the middle of walls longer than 5,0 m. All tie-beams and tie-columns are interconnected, and connected to the reinforced concrete structure. The cross section of tie-columns and tie-beams for 30cm thick walls is 30,0 x 30,0 cm. Tie-beams and tie-columns are not calculated separately but are included in the wall unit price together with reinforcement and formwork. The price per unit of measure includes all the obligatory seismic protection blocks, necessary tools, work, transport, material, scaffolding and any other item to competition of item.

Calculation per m3 of executed wall with opening deduction.

BoQ Item	B2.3.	Unit	m3
Unit price definition	Supply and construction of partition walls with ACC-gas concrete wall block, d=25cm		
<p>Description</p> <p>Supply and construction of partition walls with 25 cm thickness ACC-gas concrete wall block. The construction of walls and material used for join mortar must be in accordance with the instructions of the block manufacturer. Connect the walls to the RC structure with steel anchors in the third row of height, and every second block of the last row must be fastened to the floor slab structure with a steel reinforcing anchor, in all respects according to the instructions of the block manufacturer.</p> <p>In the walls, execute tie-columns and tie-beams made of reinforced C25/30 concrete, reinforcement steel rebar $\pm 2\varnothing 14$ and 8/15 cm stirrups. Execute the tie-beams in all walls at the height of the door opening and on the top of parapets. Execute tie-columns on the side of all door openings where the cross section is small to be the installed in brick walls, on free ends of the wall, at intersection of walls, in the middle of walls longer than 5,0 m. All tie-beams and tie-columns are interconnected, and connected to the reinforced concrete structure. The cross section of tie-columns and tie-beams for 25 cm thick walls is 25,0 x 25,0 cm. Tie-beams and tie-columns are not calculated separately but are included in the wall unit price together with reinforcement and formwork. The price per unit of measure includes all the obligatory seismic protection blocks, necessary tools, work, transport, material, scaffolding and any other item to competition of item.</p> <p>Calculation per m3 of executed wall with opening deduction.</p>			

BoQ Item	B2.4.	Unit	m3
Unit price definition	Supply and construction of stairs in the classroom on the first floor with ACC-gas concrete, d=25cm		
Description			
Supply and construction of stairs in the classroom on the first floor with 25 cm thickness ACC-gas concrete wall block. 1st step 0.95x0.25x0.16m/ 2nd step 3.2x0.25x0.16m/ 3rd landing 2x0.95m. Work should be carried out in accordance with the instructions of the manufacturer of building blocks. The price per unit of measure includes all tools, labor, transport, material and scaffolding. The price per unit of measure includes all necessary tools, work, transport, material and any other item to competition of item. Calculation per m3.			

BoQ Item	B2.5.	Unit	m2
Unit price definition	Supply and installation-application of a reinforcement cement screed in toilets		
<p>Description</p> <p>Execution of cement screed in the toilets with 300 kg/m3 cement content, steel mesh and polypropylene fibers, evenly distributed in the cement screed in three dimensions, over the concrete slab, as a leveling layer for application of designed floorings.</p> <p>The cement screed is planned for floor leveling between deferent room and on flat roofs for to creation of slope layers. Average thickness of cement screed is 5cm depending on existing leveling's. In the toilets, the liner should be installed at slope toward drains. D=4-6 cm,</p> <p>Final top surface shall be cleaned, and the dust removed, and it shall be levelled using cement-based levelling compound, which should be allowed to dry.</p> <p>Calculation per m2 of finished cement screed, calculating all work and material.</p>			

BoQ Item	B2.6.	Unit	m2
Unit price definition	Supply and installation-application of a reinforcement cement screed		
Description			
Execution of cement screed with 300 kg/m3 cement content, steel mesh and polypropylene fibers, evenly distributed in the cement screed in three dimensions, over the thermal insulation, as a leveling layer for application of designed floorings.			
The cement screed is planned for floor leveling between deferent room and on flat roofs for to creation of slope layers. Average thickness of cement screed is 4cm depending on existing leveling's. In the toilets, the liner should be installed at slope toward drains. D=4 cm,			
Final top surface shall be cleaned, and the dust removed, and it shall be levelled using cement-based levelling compound, which should be allowed to dry.			
Calculation per m2 of finished cement screed, calculating all work and material.			

BoQ Item	B2.7.	Unit	m2
Unit price definition	Supply and covering - plastering sanitary walls		
Description			
Supply and covering - plastering sanitary walls with single layer rough plaster with 350kg/m ³ cement content. Prior plastering, clean and patch the surfaces and install the edge profiles. Plastering of edges around the openings is covered in unit price and will not be paid separately. Mortar covered surfaces must be flat, smooth, with sharp edges and free from substances that are susceptible to swelling. The price includes all work and material with edge profiles, transport, scaffolding and work. The price includes the preparation of the existing walls for proper plastering (removal of damaged parts, applying the substrate and other necessary pre-work). Calculation per m2 of covered surface.			

BoQ Item	B2.8.	Unit	m2
Unit price definition	Supply and covering - plastering newly designed internal partition wall and parapet on the facade and internal openings		
<p>Description</p> <p>Supply and covering - plastering newly designed internal partition wall and parapet on the facade and internal openings with single layer rough plaster with 350kg/m³ cement content. Prior plastering, clean and patch the surfaces and install the edge profiles. Plastering of edges around the openings is covered in unit price and will not be paid separately. Mortar covered surfaces must be flat, smooth, with sharp edges and free from substances that are susceptible to swelling. The price includes all work and material with edge profiles, transport, scaffolding and work. The price includes the preparation of the existing walls for proper plastering (removal of damaged parts, applying the substrate and other necessary pre-work).</p> <p>Calculation per m2 of covered surface.</p>			

BoQ Item	B3.1.	Unit	m2
Unit price definition	Supply and installation of hydro insulation of two-component fiber-reinforced mortar, in toilets		
<p>Description</p> <p>Supply and installation of two-component fiber-reinforced mortar, in sanitary facilities, with very low elastic modulus, containing fine particle size selected aggregates and adequate additives for waterproofing. Waterproofing is applied in two layers, using a trowel, with a maximum recommended thickness of 2 mm, all according to the manufacturer instructions. Waterproofing on the walls in the toilettes shall rise to 15 cm above the finished floor level, including the fiberglass meshes on angels of the toilets. Particular attention shall be paid to sealing the around the floor drains and opening for installation to prevent leakage.</p> <p>Calculation per m2 installed hydro insulation, lifting along walls included in the unit price.</p>			

BoQ Item	B3.2.	Unit	m2
Unit price definition	Supply and installation of hydro insulation of two-component fiber-reinforced mortar, on ground floor terraces		
<p>Description</p> <p>Supply and installation of hydro insulation on the floor slab on the ground floor terraces made from hydro-isolation membrane coated from both sides with a high-quality bitumen mass, produced from special bitumen, enriched with elasticizes based on specially chosen rubbers and quality mineral fillers, in two layers each minimum 4 mm of thicknesses. The HI should be raised along the walls min. 10 cm, around the perimeter of the room. The installation of horizontal waterproofing on the ground floor plate with these layers: -one layer of hot coating of bitumen or bituminous masses with a consumption of 1.5kg/m2 on a cleaned and flat surface, -first layer of bitumen waterproofing strips d=4mm, laid on hot bitumen with welded overlaps, 10 cm wide</p> <p>- second layer of bitumen waterproofing strips d=4mm, over first layer with overlaps 10 cm wide, 100% welded to the first layer</p> <p>Welding of bitumen strips is performed by heating the flame strip with an open flame, softening the bituminous mass of the surface to be glued and gluing with its own mass to the substrate.</p> <p>Calculation per m2 of horizontal projection of installed hydro insulation, lifting along walls included in the unit price.</p>			

BoQ Item	B3.3.	Unit	m2
Unit price definition	Supply and installation of thermal insulation boards made of extruded polystyrene on all floor slabs.		
<p>Description</p> <p>Supply and installation on all floor slabs of thermal insulation boards made of extruded polystyrene with a smooth surface structure, thickness 20mm. On the upper side of the isolation PE sheet should be applied. The seams must be mechanically tested with screw driver or steel needle to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding. All procedures should be performed in accordance with the manufacturer's instructions.</p> <p>The work item includes the sealing of all penetrations through the insulation and vertical structural elements, horizontal drains through the concrete slab structure and parapets. The unit price includes all materials, works and accompanying material necessary for proper installation.</p> <p>Calculation per m2 of installed insulation</p>			

BoQ Item	B3.4.	Unit	m2
Unit price definition	Supply and installation of thermal insulation between the wooden roof structure, d=10cm.		
<p>Description</p> <p>Supply and installation of thermal insulation between the wooden roof structure. Thermal insulation is made of mineral wool, thickness d=10cm. Mineral wool is protected on both sides by PVC foil.</p> <p>The calculation is per m2 of performed thermal insulation. Thermo insulation shall be install under the working conditions, application equipment etc. strictly in accordance to the manufacturer's instructions. Unit price includes all works and material including permeable membrane as a vapor barrier and scaffolding.</p> <p>Calculation per m2 of installed thermal insulation including permeable membrane.</p>			

BoQ Item	B3.5.	Unit	m2
Unit price definition	Supply and installation of Homeseal LDS 35 vapor barrier or equivalent on the roof of the building.		
Description Supply and installation of Homeseal LDS 35 vapor barrier or equivalent on the roof of the building. Vapor barrier shall be install under the working conditions, application equipment etc. strictly in accordance to the manufacturer’s instructions. Calculation per m2 of installed vapor barrier including permeable membrane.			

BoQ Item	B4.1	Unit	m ²
Unit price definition	Procurement of materials and covering of the building with steel galvanized plasticized flat double-folded sheet thickness d=0.55mm		
Description	<p>Procurement of materials and covering of the building with steel galvanized plasticized flat double-folded sheet thickness d=0.55mm. Zinc coating 200g/m², PE paint thickness 25 microns, RAL 3009, minimum sheet load capacity 3.66 kN/m². The unit price includes all work, material, scaffolding.</p> <p>Calculation per m² of covered area. d=0.55 mm</p> <p>zinc 200g/m²</p> <p>RAL 3009</p> <p>min load capacity 3.66 kN/m²</p>		

BoQ Item	B4.2	Unit	m'
Unit price definition	Supply and installation of sheet metal cladding on the attics of calcan walls, DW up to 45 cm, RAL 3009		
Description	<p>Fabrication and installation of sheet metal cladding - gutters on the attics of calcan walls, DW up to 45 cm, made of steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m², PE paint thickness 25 microns, RAL 3009. The position includes the preparation of the substrate and bonding completely according to the norm. The price includes all work, materials and scaffolding. Calculation per m' of finished cladding, complete with all binding and connecting material.</p>		

BoQ Item	B4.3	Unit	m'
Unit price definition	Supply and installation of sheet metal cladding on the sides of the attic-calcan walls, DW up to 100 cm, RAL 3009		
Description	<p>Supply and installation of sheet metal cladding on the sides of the attic-calcan walls, DW up to 100 cm, made of steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m², PE paint thickness 25 microns, RAL 3009. The position includes the preparation of the substrate and bonding completely according to the norm. The price includes all work, materials and scaffolding. Calculation per m' of finished cladding, complete with all binding and connecting material.</p>		

BoQ Item	B4.4.	Unit	m'
Unit price definition	Supply and installation of TR sheet metal cladding on the wooden substructure, RaL 9005		
Description	<p>Supply and installation of TR sheet metal cladding on the wooden substructure. Sheet metal as an imitation of paneling is hung from the underside of the rafters dropped over the facade on the wooden substructure, which is included in the unit price. RŠ 100cm made of plasticized sheet d=0.55mm, RAL 9005. The position includes the preparation of the substrate and binding completely according to the norm. The price includes all work, materials and scaffolding. Calculation per m' of finished cladding, complete with all binding and connecting material.</p>		

BoQ Item	B4.5.	Unit	m'
Unit price definition	Supply and installation of sheet metal cladding - lead sheet at the junction of the roof covering and the horizontal gutter, DW up to 30 cm, RAL 3009		
Description			
Supply and installation of sheet metal cladding - lead sheet at the junction of the roof covering and the horizontal gutter, DW up to 30 cm from steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m2, PE paint thickness 25 microns, RAL 3009. The position includes the preparation of the substrate and bonding completely according to the norm. The price includes all work, materials and scaffolding.			
Calculation per m' of finished cladding, complete with all binding and connecting material.			

BoQ Item	B4.6.	Unit	m'
Unit price definition	Supply and installation of sheet metal cladding - connection of wall and roof covering, DW up to 40 cm, RAL 3009		
Description Supply and installation of sheet metal cladding - connection of wall and roof covering, DW up to 40 cm from steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m2, PE paint thickness 25 microns, RAL 3009. The position includes the preparation of the substrate and bonding completely according to the norm. The price includes all work, materials and scaffolding. Calculation per m' of finished cladding, complete with all binding and connecting material.			

BoQ Item	B4.7.	Unit	m'
Unit price definition	Supply and installation of sheet metal lining of the chimney - connection of the wall and roof covering, DW up to 55 cm		
Description			
Supply and installation of sheet metal lining of the chimney - connection of the wall and roof covering, DW up to 55 cm from steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m2, PE paint thickness 25 microns, RAL 3009. The position includes the preparation of the substrate and bonding completely according to the norm. The price includes all work, materials and scaffolding.			
Calculation per m' of finished cladding, complete with all binding and connecting material.			

BoQ Item	B4.8.	Unit	m'
Unit price definition	Supply and installation of a horizontal gutter, made of steel galvanized plasticized sheet d=0.55mm		
Description			
Production and installation of a horizontal gutter, DW up to 60 cm, made of steel galvanized plasticized sheet d=0.55mm. Zinc coating 200g/m2, thickness of paint PE 25 microns, RAL 7025. The position includes preparation of the substrate, installation of gutter holders made of steel sheets 25mm wide, 2mm thick and binding completely according to the standard. The unite price includes all the work, material, scaffolding, installation of gutter and execution of expansion joints, sealing with permanently elastic			
Calculation per m' of the gutter, complete with all connecting and connecting material.			

BoQ Item	B4.9.	Unit	m'
Unit price definition	Supply and installation of vertical rainwater downpipes made of galvanized metal sheet with polymer coating, Ø100mm		
Description			
Procurement of materials and production and installation of gutter verticals with a circular section Ø100mm from factory-painted galvanized plasticized sheet, according to the project. The position includes horizontal distribution under canopies, breaks in height, joining verticals for roof drains (downpipes) and horizontal gutters. Gutter pipes must be made with all the necessary anchors and clamps, with all the necessary connecting and connecting material.			
Calculation per m' of the executed gutter, together with the connection of the horizontal gutter and the vertical gutter pipe, complete with all connecting and connecting material, work and scaffolding.			

BoQ Item	B4.10.	Unit	m'
Unit price definition	Supply and installation of linear snow guards made of galvanized sheet steel in the color RAL 3009		
Description			
Procurement and installation of linear snow guards made of galvanized sheet steel in the color RAL 3009 for installation on a sheet metal roof covering. Fasten the snow guards to the roof surface in accordance with the manufacturer's instructions.			
Calculation per m1 of installed snow guard.			

BoQ Item	B5.1.-B5.10.	Unit	pcs
Unit price definition	External doors, windows and glass walls of 5-chamber PVC profiles		
<p>Description</p> <p>Facade lock made of five-chamber PVC profiles with visible fittings, in color RAL 9010.</p> <p>The system depth of the profile is a minimum of 70 mm. Thermal conductivity of the profile $U_{fmax}=1.4 \text{ W/m}^2\text{K}$.</p> <p>All sealing rubbers are made of EPDM. The glass is double-layered, with a thermal conductivity coefficient $U_g=1.0 \text{ W/m}^2\text{K}$ and a solar coefficient $g_{max}=0.42$. The maximum heat coefficient of the entire position is $U_w = 1.30 \text{ W/m}^2\text{K}$.</p> <p>The complete locksmith position must be certified and systematic.</p> <p>The locksmith must possess the following certificates:</p> <ul style="list-style-type: none">- watertightness (EN 1027; EN 12208), Class 9A-resistance to air permeability (EN 1026; EN 12207) 4- resistance to wind pressure EN12211; EN12210 Class B5 <p>The fitting is systemic, certified. The hardware system includes anti-mishandling elements as well as wing 'rests' in all to the supplier's specification. The hardware must allow comfortable handling when locking and unlocking, which is achieved by rotating locking points (mushrooms). The sound protection of locksmiths with glazed wings is 30-34dB (class II).</p> <p>Note: The installation must be carried out in accordance with the workshop details prepared by the contractor, based on the dimensions of the positions taken on site, and all in accordance with the recommendations of the system manufacturer. The details must be approved by the supervisory authority. It is necessary to install a threshold molding up to 10 mm high on the outer door, and a PVC solbank up to 25 cm wide under all facade windows, which will not be paid for separately. Opening according to the schemes given in the graphic attachments of the project.</p>			

In the unit price of each position, it is necessary to include the processing of the slats around the window. The slats must be finished with dispersion and/or grease paint, depending on the final finishing of the wall on which the position is located.

BoQ Item	B5.11. – B5.16.	Unit	m1
Unit price definition	Internal doors, windows and glass walls of 5-chamber PVC profiles		
Description			
Internal lock made of aluminum profiles without thermal break in RAL 7035 color with filling in accordance with locksmith schemes (pamplex glass 3.3.1, single glass 4 mm, aluminum panel 20 mm and chipboard 18 mm). Alu lock made of aluminum profiles with visible hardware. The profile is protected by a plasticization process for which the manufacturer provides a minimum 10-year warranty. Color of aluminum profiles and fillings RAL 7035 matt.			
The width of the stock is 50mm, and the wings are 59mm. All sealing rubbers are made of EPDM. The complete locksmith position must be certified and systematic.			
The locksmith must have the following certificates:			
- watertightness (EN 1027; EN 12208), Class 4A (600 Pa)			
- resistance to air permeability (EN 1026; EN 12207) Class 2			
- resistance to wind pressure (EN12211; EN12210) Class A2 (800Ra)			
Note: The installation must be carried out in accordance with the workshop details prepared by the contractor, based on the dimensions of the positions taken on site, and all in accordance with the recommendations of the system manufacturer. The details must be approved by the supervisory authority.			

BoQ Item	B6.1.	Unit	m2
Unit price definition	Supply and installation - Flooring with 2 mm joint gaps using first quality, matte, non-glazed porcelain tiles with any color, pattern and surface characteristics (using tile adhesive) in toilets		
<p>Description</p> <p>The supply and installation of adhesive and porcelain tiles (first class) on the floors and walls of toilets, the project should be considered. The placement of tiles should be made without working “join” (2-3 mm permissible joint), the type and color of tiles and grout of joints is determined according to the supervisor’s request. The material used shall be of high quality and application equipment etc. shall all be strictly in accordance to the manufacturer’s instructions.</p> <p>Unit price includes all works, material, preparatory work, preparation and cleaning of the substrate and edge PVC moldings in color of tiles.</p> <p>Calculation per m2 of installed ceramic tiles</p> <p>Floor:</p> <ul style="list-style-type: none">- Unglazed porcelain tile: first class, abrasion resistant to PEI IV, slippery class (R) 10 etc.- Nominal Facial Dimensions: 330x330x8 and 450x450x8 mm- Provided in the following areas: kitchenette and toilets etc. as indicated in the main design			

BoQ Item	B6.2.	Unit	m2
Unit price definition	Supply and installation - Flooring with 2 mm joint gaps using first quality, matte, non-glazed porcelain tiles with any color, pattern and surface characteristics (using tile adhesive) in toilet hall, boiler room and janitor's room		
<p>Description</p> <p>The supply and installation of adhesive and porcelain tiles (first class) on the toilet hall, boiler room and janitor's room on the ground floor of the building. The placement of tiles should be made without working “join” (2-3 mm permissible joint), the type and color of tiles and grout of joints is determined according to the supervisor’s request. The material used shall be of high quality and application equipment etc. shall all be strictly in accordance to the manufacturer’s instructions.</p> <p>Unit price includes all works, material, preparatory work, preparation and cleaning of the substrate and edge PVC moldings in color of tiles.</p> <p>Calculation per m2 of installed ceramic tiles.</p> <p>Wall:</p> <ul style="list-style-type: none">- Porcelain glazed wall tiles: first class, finish with strait edges- abrasion resistant to PEI IV, slippery class, etc.- Nominal Facial Dimensions: 330x330x8 and 450x450x8 mm,- laying height: up to ceiling- Provided in the following areas: toilet hall, boiler room and janitor's room on the ground floor			

BoQ Item	B6.3.	Unit	m2
Unit price definition	Supply and installation - Flooring with 2 mm joint gaps using first quality, matte, non-glazed porcelain tiles with any color, pattern and surface characteristics (using tile adhesive) on concrete classroom terraces.		
<p>Description</p> <p>The supply and installation of adhesive and porcelain tiles (first class) on the classroom concrete terraces. The placement of tiles should be made without working “join” (2-3 mm permissible joint), the type and color of tiles and grout of joints is determined according to the supervisor’s request. The material used shall be of high quality and application equipment etc. shall all be strictly in accordance to the manufacturer’s instructions.</p> <p>Unit price includes all works, material, preparatory work, preparation and cleaning of the substrate and edge PVC moldings in color of tiles.</p> <p>Calculation per m2 of installed ceramic tiles.</p> <p>Floor:</p> <ul style="list-style-type: none">- Unglazed porcelain tile: first class, abrasion resistant to PEI IV, slippery class (R) 10 etc.- Nominal Facial Dimensions: 330x330x8 and 450x450x8 mm- Provided in the following areas: classroom concrete terraces			

BoQ Item	B6.4.	Unit	m2
Unit price definition	Supply and installation - Flooring with 2 mm joint gaps using first quality, matte, non-glazed porcelain tiles with any color, pattern and surface characteristics (using tile adhesive) on floor of the hall and the internal staircase		
<p>Description</p> <p>The supply and installation of adhesive and porcelain tiles (first class) on the floor of the hall and the internal staircase. The placement of tiles should be made without working “join” (2-3 mm permissible joint), the type and color of tiles and grout of joints is determined according to the supervisor’s request. The material used shall be of high quality and application equipment etc. shall all be strictly in accordance to the manufacturer’s instructions.</p> <p>Unit price includes all works, material, preparatory work, preparation and cleaning of the substrate and edge PVC moldings in color of tiles.</p> <p>Calculation per m2 of installed ceramic tiles.</p> <p>Floor:</p> <ul style="list-style-type: none">- Unglazed porcelain tile: first class, abrasion resistant to PEI IV, slippery class (R) 10 etc.- Nominal Facial Dimensions: 330x330x8 and 450x450x8 mm- Provided in the following areas: floor of the hall and the internal staircase			

BoQ Item	B6.5.	Unit	m2
Unit price definition	Supply and installation - Wall tiling with 2 mm joint gaps using first quality, glazed porcelain with any color, pattern and surface characteristics (using tile adhesive), in the toilets		
<p>Description</p> <p>The supply and installation of adhesive and porcelain tiles (first class) on the floors and walls of toilets, the project should be considered. The placement of tiles should be made without working “join” (2-3 mm permissible joint), the type and color of tiles and grout of joints is determined according to the supervisor’s request. The material used shall be of high quality and application equipment etc. shall all be strictly in accordance to the manufacturer’s instructions.</p> <p>Unit price includes all works, material, preparatory work, preparation and cleaning of the substrate and edge PVC moldings in color of tiles.</p> <p>Calculation per m2 of installed ceramic tiles.</p> <p>Wall:</p> <ul style="list-style-type: none">- Porcelain glazed wall tiles: first class, finish with strait edges- abrasion resistant to PEI IV, slippery class, etc.- Nominal Facial Dimensions: 330x330x8 and 450x450x8 mm,- laying height: up to ceiling- Provided in the following areas: toilets, storage etc. as indicated in the main design			

BoQ Item	B7.1.	Unit	m2
Unit price definition	Supply and installation of vinyl flooring in classrooms.		
Description			
Supply and installation of vinyl flooring for commercial use, in accordance with main design.			
Prior the installation of the vinyl flooring preparation of underlayer must be executed.			
The limit values of the unevenness of the finished substrate measured at a distance of 2m - 7 mm, 0,20m - 2 mm, and the allowable humidity of the screed is 2%.			
Technical characteristics of vinyl flooring:			

<ul style="list-style-type: none"> - total thickness: 2,00 mm according to EN ISO 24346 - thickness of the wear layer: $\geq 1,00$ mm according to EN ISO 24340 - European classification: class 34-43 according to EN ISO 10874 - fire rating: class Bfl-s1 according to EN 13501-1 - slip resistance wet: class R10 according to DIN 51130 - electrical propensity: < 2 kV according to EN ISO 1815 - wear resistance: $\leq 2,0$ mm³ according to EN 660.2 - Wear group: T according to EN 651 - residential indentation: $\leq 0,10$ mm according to EN ISO 24343-1 - color fastnesses: ≥ 6 degree according to EN 20105-B02 A multi-layered flexible PVC floor covering with antibacterial and fungicidal treatment, resistant to acids and easy to maintain, is laid on the base prepared in this way. <p>Total thickness according to EN ISO 24346:2013 - 2 mm</p> <p>thickness of the supporting layer of pure PVC according to EN ISO 24340:2013 > 1 mm total weight according to EN ISO 23997:2013 2580 - 2680g/m² European classification according to EN ISO 10874:2013: 34-43 fire resistance EN 13501-1:2010: Bfl -s1 susceptibility to static electricity EN 1815:2016: < 2 kV anti-slip class according to DIN 51 130 R10 abrasion resistance according to EN 660-2:2003: < 2.0 mm³ wear class according to EN 651:2013 group T residual indentation according to EN ISO 24343 -1:2013 < 0.10 mm resistance to furniture wheels according to EN 425:2003 OK</p> <p>resistant to chemical product according to EN ISO 26987</p> <ul style="list-style-type: none"> - total emissions of harmful substances (TVOC) after 28 days < 10 μg/m³ according to ISO 16000-6 <p>The vinyl flooring is installed by using by welding and adhesive on previously prepared surface. Color of welding electrode in color of floor.</p> <p>Design type and color of flooring and MDF boards shall be chosen by Supervisor.</p> <p>The material used shall be of high quality and produced by appropriate manufacturer and the working conditions, application equipment etc. shall all be strictly in accordance to the manufacturer's instructions.</p> <p>Unit price include all works, material, preparation of sublayer.</p> <p>Calculation per m² of installed floor.</p>

BoQ Item	B7.2.	Unit	m'
Unit price definition	Supply and installation of PVC-type flexible wall skirting		
Description	Supply and installation of flexible wall skirting, made of PVC, height 60 mm, width 13.5 mm, color according to the supervisor's choice. The skirting is glued adhesive according to the manufacturer's recommendation.		
	Unit price include all works and materials. Calculation per m' of installed skirting.		

BoQ Item	B7.3.	Unit	m'
Unit price definition	Supply and installation of the aluminum floor molding		
Description Supply and installation of the aluminum floor molding at the junction of different types of floorings. Installation with adequate adhesive. Color shall be chosen by Supervisor. Calculation per m' of installed floor molding.			

BoQ Item	B7.4.	Unit	m2
Unit price definition	Supply and installation of leveling layer		
Description			
Installation of leveling layer. On a cleaned and dry floor, apply a quick-drying primer for use over porous substrates before applying cement-based screeds, self-leveling and thin-set mortars. The substrate must be structurally sound, dry, without active cracks, clean and free of all contaminants such as grease, oil, paint, wax and others that would reduce adhesion. Residues of adhesive must be completely removed from the substrate in order to obtain a porous surface before application and subsequent chipping, self-leveling compounds or thinly bonded plasters. After the primer has dried, apply a cementitious self-levelling and smoothing compound to depths of up to 25 mm, creating flat surfaces for the installation of tiles and other floor coverings. After drying the self-leveling mass, perform fine sanding, cleaning and vacuuming. All produced waste is disposed of at the city landfill.			
The unit price includes all works, materials and application of foundation and self-leveling works. Calculation per m2 of treated floor.			

BoQ Item	B8.1.	Unit	m2
Unit price definition	Supply and installation of suspended ceilings with gypsum boards d = 12.5 mm		
Description Suspended ceiling system with 12,5mm single layer gypsum board, material supply and installation of gypsum board ceiling system in dry areas such as classrooms on the first floor. Metal grid suspension system shall be hot dip galvanized steel and coated with factory applied hot baked enamel paint/aluminum capping of approved color.			
Supporting Elements: <ul style="list-style-type: none">- Galvanized steel perimeter profile or synced metal.- Upper support of the Suspension Grid, Primary support profile.- Lower support of the Suspension Grid, Ceiling profile.- Connecting Clip connects the Primary Support profile to the Ceiling Profile.- Accessories: Provide manufacturer's standard accessories. Unit price include all works and materials necessary to complete the ceiling, and the execution of joints with joint tape, puttying and applying a thin smooth coat layer on joints.			
Calculation per m2 of horizontal projection of completed ceiling			

BoQ Item	B9.1.	Unit	m2
Unit price definition	Supply and installation of thermal insulation of exterior walls with 10cm thickness EPS thermal insulation boards		
<p>Description</p> <p>Supply and installation of thermal insulation of exterior walls with 10cm thickness EPS thermal insulation boards. The finishing paint must be vapor-permeable, resistant to washing with water, low water absorption and resistant to atmospheric influences. The substrate must be clean, firm and dry. Before applying the paint, it is necessary to impregnate the substrate with a product according to the manufacturer's instructions. The unit price includes all labor and materials and necessary scaffolding.</p> <p>Calculation per m2 of painted surface. Coefficient of capillary water absorption, w (EN 1062-3), class III - weak water absorption</p>			

BoQ Item	B9.2.	Unit	m2
Unit price definition	Supply and installation of thermal insulation of exterior walls with 3cm thickness EPS thermal insulation boards		
<p>Description</p> <p>Supply and installation of thermal insulation of exterior walls with 3cm thickness EPS thermal insulation boards. The finishing paint must be vapor-permeable, resistant to washing with water, low water absorption and resistant to atmospheric influences. The substrate must be clean, firm and dry. Before applying the paint, it is necessary to impregnate the substrate with a product according to the manufacturer's instructions. The unit price includes all labor and materials and necessary scaffolding.</p> <p>Calculation per m2 of painted surface. Coefficient of capillary water absorption, w (EN 1062-3), class III - weak water absorption</p>			

BoQ Item	B9.3.	Unit	m2
Unit price definition	Procurement and plastering of the facade plinth with decorative plaster of multi-colored marble granules.		
Description Procurement and plastering of the facade plinth with decorative plaster of multi-colored marble granules. Before application, the surface must be prepared according to the manufacturer's instructions. Color of the user's choice. Calculation per m2 of cultivated area.			

BoQ Item	B10.1.	Unit	m2
Unit price definition	Plastering and painting the ceiling in the rooms on the ground floor with semi-dispersive paint.		
Description			
Appropriate interior paint based on water dispersion shall be applied in two layers on ceilings in rooms on ground floor.			
The substrate must be solid, dry and clean, free of loose parts, dust, easily soluble salts, greasy stains and other dirt. Dust and other unaccepted dirt are vacuumed or removed by brushing, undecomposed formwork residues oils from concrete surfaces are washed with a jet of hot water or steam. With already painted surfaces, we remove all easily and quickly soluble deposits from			

the substrate, as well as treatments with oil paints, varnishes or enamels. Disinfected wall surfaces infected with mold must be disinfected before applying the leveling compound. At first the walls/ceiling must be prepared with leveling compound. The leveling compound is installed in two layers, where the thickness of the individual layer should not exceed 1 to 2 mm, and the total two-layer coating thickness 3 mm. The mass is applied by machine - by spraying or by hand - with a stainless-steel trowel. To spread the mass on the treated surface and remove the excess mass, we use a stainless-steel trowel to smooth the surface as well as possible. Sand the first layer before applying the second, as well as the second or final layer with fine sandpaper. Grinding can be executed manually or by machine. Installation of leveling compounds is only allowed in appropriate weather conditions or appropriate microclimatic conditions: the temperature of air and wall surfaces should not be lower than +5 °C and not higher than +35 °C, relative humidity not higher than 80%. Leveling compounds shall be completely dried before starting painting. The paint is applied in two layers at intervals of 4 - 6 hours (T = +20 °C, rel. Humidity = 65%), with long-haired fur or with a textile paint roller, with a paint brush suitable for applying dispersion wall paints or spraying. Color is white. Paint individual wall surfaces without interruption from one end edge to the other. Unit price includes all work, material, scaffolding as well as all correction of the painting after the completion of all works. Calculation per m2 of painted walls/ceilings.

BoQ Item	B10.2.	Unit	m2
Unit price definition	Plastering and painting of suspended ceilings in classrooms on the first floor with semi-dispersive paint.		
<p>Description</p> <p>Appropriate interior paint based on water dispersion shall be applied in two layers on suspended ceilings areas on first floor.</p> <p>The substrate must be solid, dry and clean, free of loose parts, dust, easily soluble salts, greasy stains and other dirt. Dust and other unaccepted dirt are vacuumed or removed by brushing, undecomposed formwork residues oils from concrete surfaces are washed with a jet of hot water or steam. With already painted surfaces, we remove all easily and quickly soluble deposits from the substrate, as well as treatments with oil paints, varnishes or enamels. Disinfected wall surfaces infected with mold must be disinfected before applying the leveling compound. Unit price includes all work, material, scaffolding as well as all correction of the painting after the completion of all works. Calculation per m2 of painted ceilings. Installation of leveling compounds is only allowed in appropriate weather conditions or appropriate microclimatic conditions: the temperature of air and wall surfaces should not be lower than +5 °C and not higher than +35 °C, relative humidity not higher than 80%.</p> <p>Leveling compounds shall be completely dried before starting painting.</p> <p>The paint is applied in two layers at intervals of 4 - 6 hours (T = +20 °C, rel. Humidity = 65%), with long-haired fur or with a textile paint roller, with a paint brush suitable for applying dispersion wall paints or spraying. Color is white.</p> <p>Paint individual wall surfaces without interruption from one end edge to the other.</p> <p>Unit price includes all work, material, scaffolding as well as all correction of the painting after the completion of all works.</p>			

Calculation per m2 of painted walls/ceilings.

BoQ Item	B10.3.	Unit	m2
Unit price definition	Plastering and painting of the existing interior walls of the rooms with semi-dispersive paint according to the project		
Description			
<p>Appropriate acrylic-based resin wall paints shall be applied in three layers on the internal walls area. The surface initially shall be treated with appropriate primer coat to reduce absorption and to improve the adhesion of subsequent coats of paint. It will be consulted to the Engineer regarding the further details for the appropriate acrylic-based resin wall paints.</p> <p>The substrate must be solid, dry and clean, free of loose parts, dust, easily soluble salts, greasy stains and other dirt. Dust and other unaccepted dirt are vacuumed or removed by brushing, undecomposed formwork residues oils from concrete surfaces are washed with a jet of hot water or steam. With already painted surfaces, we remove all easily and quickly soluble deposits from the substrate, as well as treatments with oil paints, varnishes or enamels. Painting of interior should be done in three layers of Matt, Low sheen semi-matte antibacterial paint; colors shall be as per request of the beneficiary and supervisor.</p> <p>Unit price includes all work, material, preparation of the substrate, scaffolding as well as all correction of the painting after the completion of all works.</p> <p>Calculation per m2 of painted walls.</p>			

BoQ Item	B10.4.	Unit	m2
Unit price definition	Plastering and painting the beams on the walls of the classrooms facing the hall area with semi-dispersive paint according to the project		
<p>Description</p> <p>Appropriate acrylic-based resin wall paints shall be applied in three layers on the internal beams area. The surface initially shall be treated with appropriate primer coat to reduce absorption and to improve the adhesion of subsequent coats of paint. It will be consulted to the Engineer regarding the further details for the appropriate acrylic-based resin wall paints.</p> <p>The substrate must be solid, dry and clean, free of loose parts, dust, easily soluble salts, greasy stains and other dirt. Dust and other unaccepted dirt are vacuumed or removed by brushing, undecomposed formwork residues oils from concrete surfaces are washed with a jet of hot water or steam. With already painted surfaces, we remove all easily and quickly soluble deposits from the substrate, as well as treatments with oil paints, varnishes or enamels. Painting of interior should be done in three layers of Matt, Low sheen semi-matte antibacterial paint; colors shall be as per request of the beneficiary and supervisor.</p> <p>Unit price includes all work, material, preparation of the substrate, scaffolding as well as all correction of the painting after the completion of all works.</p> <p>Calculation per m2 of painted walls.</p>			

BoQ Item	B11.1.	Unit	m2
Unit price definition	Installation of a wooden substructure for the roof covering with all work and materials, including impregnation coatings		
Description	Installation of a wooden substructure for the roof covering. The price includes all work and materials, including impregnation coatings. Calculation per m3. Coat the wood with means for impregnation and protection against insects. The position also includes all connecting means.		

BoQ Item	B11.2.	Unit	m2
Unit price definition	Supply and installation of wooden substructure from laths dim. 40x40mm.		
Description	Supply and installation of wooden substructure from laths dim. 40x40mm. Wooden elements are hung on exposed rafters as a base for installation of TR tin paneling-imitation paneling. Calculation per m3.		

BoQ Item	B12.1.	Unit	m'
Unit price definition	Reconstrucion of the existing fence on the internal staircase.		
Description	Reconstrucion of the existing fence on the internal staircase. The fence should be cleaned, sanded and coated twice with the base color and once with the final color. Fence height h=1.05m. Calculation per meter of fence		

BoQ Item	B12.2.	Unit	m2
Unit price definition	Humus treatment of areas from which the concrete pavement has been removed: procurement, delivery and spreading of healthy humus soil on the plateau.		
Description	Humus treatment of areas from which the concrete pavement has been removed: procurement, delivery and spreading of healthy humus soil on the plateau. Covered finishing of all free surfaces, with internal material transport. This treatment consists of applying 2 layers per 15 cm of fertile soil with the addition of manure on the surface second layer.		

BoQ Item	B12.3.	Unit	LS
Unit price definition	Dismantling and assembling of the board with the name of the object.		
Description	Dismantling and assembling of the board with the name of the object. The position implies the execution of assembly at the place of the Investor's choice.		

BoQ Item	B12.4.	Unit	pcs
Unit price definition	Reassembly of the radiator with testing, flushing, cleaning and painting.		
Description	Reassembly of the radiator with testing, flushing, cleaning and painting. Install the radiators carefully after finishing the walls. The Contractor is obliged to remove all damage caused during disassembly and reassembly at his own expense.		

BoQ Item	B12.5.	Unit	LS
Unit price definition	Painting of existing radiator heating pipelines.		
Description	Painting of existing radiator heating pipelines. The position includes preliminary preparation of pipe surfaces (sanding), base coating and final paint.		

BoQ Item	B12.6.	Unit	m'
Unit price definition	Production of marble benches on windows up to 15 cm wide, 2 cm thick.		
Description	Production of marble benches on windows up to 15 cm wide, 2 cm thick.		

BoQ Item	B12.7.	Unit	m2
Unit price definition	Final cleaning of the building.		
Description	Final cleaning of the building.		

Section 5. Hydrotechnical installations

5.1. General requirements for all positions of works

Main design Hydraulic installation is done according to the main architectural design and in compliance with the relevant international and domestic standards and applicable technical regulations and standards for installations of this type.

This Main design includes the following hydraulic installations with associated equipment, devices and accessories, as follows:

- Plumbing installation system;
- Sewerage installation system for collection and evacuation of sanitary wastewater;
- Sanitary devices and accessories;

5.1.1. PLUMBING

A) TECHNICAL SOLUTION

During development of the design information of type of existing pipes' materials has not been available. The design envisage installation of the new PPR pipes which shall be installed in the floors and walls. After commencement of the works the supervisor and the contractor shall determinate method of connecting old and new pipes.

Replacement of the entire plumbing installation in toilets is planned. The pipe diameters given as internal are determined by hydraulic calculation are given in the graphic documentation. Dismantling and plugging of installations in the existing toilet for persons with disabilities is planned.

At all internal sanitary water distribution, the required number of central and through valves is provided in order to ensure their proper functioning and maintenance and orderly supply to all consumers in regular and emergency conditions. On the branches for sanitary facilities and some plumbing connection joints, gate valves are provided, with a nickel-plated plug and a rosette, for sanitary cold water. The valves shall be mounted in visible and easily accessible places.

The internal plumbing piping will be installed partly in the wall, in special chases, with the necessary insulation, partly in the floors with thermal insulation, too. At the locations where the plumbing and sewerage pipes overlap, plumbing pipes shall be placed above the sewerage pipes.

For the fire protection, new hydrants equipped with a shutter, a coupling, a hose with a nozzle are planned. The new wall hydrant shall be connected at existing pipelines made of steel pipes Ø50mm.

The complete plumbing protection installation is provided by high-density polyethylene pipes PP-R, for pressurized fluid, PN10, manufactured in accordance with the European standard EN 10910 PE 100, with electrofusion or butt welding.

Before handing over the performed works on the water supply installations, it is necessary to obtain proof that the water samples from this network are bacteriologically correct, i.e., that the water is suitable for drinking and human use. The entire distribution pipeline should be tested at a test pressure of 10 bar.

B) EXECUTION OF THE WORKS

Work the sanitary water pipe network from plastic PP-R pipes of certified quality.

The horizontal distribution of the water supply network in the building is placed below and on the concrete slab floor with obligatory protection against sweating.

Check valves with rosettes and a nickel-plated cap are installed on all branches below each tap.

A detailed description of the works is given in this technical specification

5.1.2. SEWERAGE INSTALLATION

Primary distributions of sanitary sewerage are designed to provide subsequent connection of any standard sanitary equipment and devices. The dismantling of the existing pipes and the replacement with new ones is planned. New manholes are planned in front facility for collection of wastewaters.

Internal installations of sewerage shall be made from plastic three-layer silent PP pipes and fittings of dimensions in accordance with the provisions of EN 1451 standard, with connection to the nozzle with integrated rubber ring. Pipes shall be made as a three-layer composite pipe, made of mineral additives reinforced material, with an inner white layer, increased noise absorption (low-noise pipes), diameter DN50 - DN160 mm, length from 0,25 to 3,0 m.

Ventilation of the sanitary sewer distribution is provided through a sufficient number of ventilation verticals DN110 and DN 75 mm, with ventilation heads above the roof slab of the building.

In the sanitary facilities, in the areas of washbasins and urinals, the installation of HDPE vertical floor drains, adjustable in height, type as HL310NPr - 3000, Floor drain DN50 vertical with sealing flange,

breath shutter height-adjustable 10 mm / end frame stainless steel frame Click-Click 121 x 121 mm stainless steel grating 115 x 115 mm, construction protection of frame and flange included in delivery. The connection of the drain with the floor waterproofing is provided with an insulating sleeve type which is supplied with the drains.

5.1.3. SANITARY WARES

Sanitary wares, fittings and accessories are first class, all are white color, and their design as well as the type of fittings and accessories are in accordance with the requirements of the supervisor. All wares and accessories shall be installed at the prescribed height, and special attention shall be paid to adjusting the connections to the factory conditions of the selected elements.

Definitive specification of sanitary wares with their dimensions should be made after controlling the dimensions and actual condition in the premises where their installation is planned.

All sanitary equipment and accessories shall be robust and suitable for public use. The Contractor shall provide stainless steel: toilet role holders, hand drying paper towel holders, handrails. Mirrors shall be set on the tiling.

Toilet bowls shall be robust units that are wall hung with correct fittings and gasket to avoid noise transmission when flushing. The cistern shall high wall mounted.

These requirements apply to each position.

The following standard should be applied, but not limited to:

EN 10240 - Internal and/or external protective coatings for steel tubes Specification for hot dip galvanized coatings

MEST EN 1074-1:2009 - Valves for water supply - Fitness for purpose requirements and appropriate verification tests - Part 1: General requirements

MEST EN 1074-2:2009 - Valves for water supply - Fitness for purpose requirements and appropriate verification tests - Part 2: Isolating valves

MEST EN 1092-2:2020 - Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 2: Cast iron flanges

MEST EN 1213:2009 - Building valves - Copper alloy stop valves for potable water supply in buildings - Tests and requirements

MEST EN 12201 - Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)

MEST EN 13476 - Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of unplasticized polyvinyl chloride (PVC-U), polypropylene (PP) and polyethylene (PE)

MEST EN 1610:2017 - Construction and testing of drains and sewers

MEST EN 476:2012 - General requirements for components used in drains and sewers

MEST EN 1563:2019 - Founding - Spheroidal graphite cast irons

MEST EN 545:2011 - Ductile iron pipes, fittings, accessories and their joints for water pipelines - Requirements and test methods

MEST EN 671-1:2013 - Fixed firefighting systems - Hose systems - Part 1: Hose reels with semi-rigid hose

MEST CEN/TR 12108:2018 - Plastics piping systems - Guidance for the installation inside buildings of pressure piping systems for hot and cold water intended for human consumption

MEST EN 598:2013 - Ductile iron pipes, fittings, accessories and their joints for sewerage applications - Requirements and test methods

MEST EN 14688:2019 - Sanitary appliances - Wash basins - Functional requirements and test methods

MEST EN 14055:2019 - WC and urinal flushing cisterns

MEST EN 200:2011 - Sanitary tapware - Single taps and combination taps for water supply systems of type 1 and type 2 - General technical specification

The entire sewerage and plumbing installation shall be executed in accordance with applicable technical regulations, based on the approved design and contract. If there is any discrepancy, the contractor is obliged to ask instructions the supervisory timely.

Prior to commencement of work, the contractor is obliged to review all designs and submit any request for clarifications to the supervisor. All materials shall comply with applicable standards and other applicable regulations for that type of material. For each material (pipes, equipment, etc.) prior of installation, the certificate proving compliance with the regulations shall be submitted. Responsibility of the contractor is to protect all installations and equipment against mechanical damage, clogging and misuse until the final submission. The contractor must arrange the works so that the materials and works do not interfere with the work of other contractors on the construction site. The Contractor is responsible for all embedded materials and works performed until the Provisional Acceptance Certificate is obtained.

The testing of the plumbing installation, piping sustainability shall be carried out in accordance with the applicable standards and regulations. All testing costs are calculated in unit price and will not be paid separately. Testing of the installation shall be done according the supervisor's instructions. Works and materials that shall not meet standards and quality defined by these technical specifications and applicable standard will not be paid. All costs of repairing and poorly executed works shall be expense of the Contractor. The Contractor is also obliged to do all works (with additional materials) not covered by the main design, if they are necessary for the normal functioning of the installations, or in order to comply with applicable regulations.

Connections to existing pipeline trenches and pipelines must be made in good quality and accurately according to the design and the obtained conditions of the water supply company.

Any change to the main design shall be only with the written approval of the supervisor. The contract authority reserves the right to increase or decrease agreed scope of work. In the case of any variation, additional/unpredicted works, the Contractor is obliged to submit a price analysis to the supervisor and obtain written consent before commencement of such works.

The calculation of executed works shall be made according to the quantities actually installed, measured on the spot, regardless of the quantities in bill of quantity. All sewer and plumbing pipes will be measured by the length of the meter measured through the center of the pipe. All sewer fittings (elbows, branches, reducers, revisions, etc.) are not calculated or paid separately, but are measured and accounted for as straight pipes. For reducing fittings, a larger diameter is calculated.

Unit price of installed pipe (water and sewage) shall include all necessary drillings of walls and slabs, as well as cutting flooring and slabs chases for laying of pipes, as well as all coating, filling, repairing and plastering upon the completed laying of pipes, and will not be paid separately.

In unit price of each item shall be included all work and materials necessary for full completion of item.

This general description is required for each position of bill of quantity (Volume 4).

The agreed unit prices include all works, material, scaffolding, transportation, use of tools, equipment or machines etc., to provide fully completed and accepted position of the works.

These general conditions apply to each item of BoQ separately.

5.2. Unite price description

BoQ Item	C1.1.	Unit	Lump sum
Unit price definition	Dismantling of the plumbing and sewage pipes and sanitary elements and accessories		
Description			
Dismantling of the existing sanitary elements toilet bowls with cisterns, sinks, "squats", etc. The position also includes the dismantling of the existing plumbing pipes in the toilets, leaving the connection for installation of the new pipes. Removing of sanitary wares and clogging the pipes in the existing toilet for people with disabilities. The position includes the dismantling of holders for soap, toilet paper and ect.			
Calculation per lump sum, with transport to the landfill at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials material.			

BoQ Item	C2.1.	Unit	m1
Unit price definition	Supply and installation of pipes, type PPR		
Description			
Supply and installation of pipes with all fittings and clamps for pipeline fastening. The pipes are with a middle layer of a special mixture of PPR with glass fibers (Polypropylene Random Copolymer, type 3). Installation with welding should be done in accordance with the manufacturer's instructions. The specification of fittings should be done by the contractor. The pipes shall be attached every 1,5 m with the original clamps for this type of pipes. After installation, the pipes shall be tested pressure of 12,0 and 8,0 bar, with three tests. Third after installation of sanitary fittings. After the testing, disinfection of the pipelines with a chlorine solution and rinsing of the pipelines shall be performed. The Contractor shall take water samples and give them for chemical bacteriological analysis to Sanitary authority.			
Pipes for cold and hot and recirculation water are different diameters: Ø20, Ø15			

The unit price includes all works, materials, necessary adjustments, welding, fittings, clamps and etc.

Calculation per m1 installed pipeline.

BoQ Item	C2.2.	Unit	pcs
Unit price definition	Supply and installation of gate valve Ø 20 mm		
Description	Supply and installation of gate valve with nickel-plated cap, for pipe diameter Ø 20 mm. Calculation per installed piece.		

BoQ Item	C2.3	Unit	m1
Unit price definition	Supply and installation of prefabricated thermal insulation		
Description	Supply and installation of prefabricated thermal insulation which does not release toxic gases during combustion, 9 mm thick, 2000 mm long. The insulation of PP-R pipes for cold and hot water, which laid freely above suspended ceiling, through plasterboard walls or under the cement screed. For PP-R pipes: Ø 20 mm - insulation 9x22x2000 mm Ø 15 mm - insulation 9x19x2000 mm The unit price includes all works and material. Calculation per m1 of insulated pipe.		

BoQ Item	C2.4.	Unit	m1
Unit price definition	Testing of the plumbing installation		
Description	Testing of the plumbing installation at a test pressure, 3 bar higher than the working pressure i.e., minimum of 15 bar. After the completing the plumbing installation, seal all drain points with plugs, install the hydraulic pump, fill the installation with water, release the air and put installation under the test pressure. The installations shall be under pressure for at least 24 hours. In case the pressure drops, find the fault location, fix it and put the installation under test pressure again for 24 h. The presence of the supervisor during testing of installation is obligatory. Calculation per m1 of tested pipeline.		

BoQ Item	C2.5.	Unit	m1
Unit price definition	Disinfection and rinsing of the plumbing installation		
Description	Disinfection and rinsing of the plumbing installation, in accordance with technical regulations. The Contractor shall provide the Certificate from the Sanitary Authority that water from installation can be used for drinking. Failing this, the Contractor shall repeat disinfection		

procedure until receiving the required Certificate, regardless of the number of repetitions the procedure. Calculation per m1 of pipeline.

BoQ Item	C3.1	Unit	M³
Unit price definition	Manual excavation of trench, 80 cm wide		
Description	<p>Manual excavation of a trench 80 cm wide, for pipeline laying in any category of soil. The contractor shall make geodetic survey of the designed route of the pipeline. The unit price includes all the necessary work and materials and eventually pumping water from the trench. The width of the trench is determined in accordance with EN 1610.</p> <p>Calculation per m³</p>		

BoQ Item	C3.2	Unit	M³
Unit price definition	Making a sand layer for a pipeline.		
Description	<p>Making a sand layer for a pipeline. Supply and installation of natural mixture sand with a fraction size of 0-4 mm, or crushed stone fraction up to 2 mm, for a bed thickness 10 cm below and around the pipe the entire width of the trench. Transport is also calculated at the unit price.</p> <p>alculation per m3.</p>		

BoQ Item	C3.3	Unit	M³
Unit price definition	Backfilling of the trenches		
Description	<p>Backfilling of the canal trench after installation and testing of pipes. Backfilling is done in layers, 30-40 cm thickness, with proper compaction until the required compression modulus is reached. Fraction size 0-63 mm. Backfilling of the first layer of the trench is done manually, with selected material from the excavation. Further backfilling can be done with machine using remaining excess from the excavation, provided that the machines during backfilling of the trench do not cross over the installed pipeline and that the layers are not thicker than 40 cm. Calculation per m3.</p>		

BoQ Item	C3.4	Unit	M³
Unit price definition	Transport of excess soil material		
Description	<p>Removal and transport of excess material to the landfill. Dispersing of soil is calculated with a 25% increase on the material calculated in density condition. Calculation per m3 of removed soil, with transport to the landfill at ADH not exceeding 20 km, including payment of the fee for disposal of waste materials material.</p>		

BoQ Item	C3.5	Unit	m1
Unit price definition	Sewage pipes and fittings, type PP-C		
Description			
Sewage pipes and fittings, type PP-C			
Supply and installation of silent sewage pipes for internal use. The pipes shall be installed with special rubber clamps, which enables the reduction of noise and acoustic vibrations up to the level of 12 dB. The pipes are made of the highest quality polypropylene-block copolymer (PP-C) reinforced with mineral additives. This type of pipes shall be used for all horizontal and vertical pipes the internal sewerage installation. Pipes shall be placed in designed inclination. The connection of pipes and fittings will be made with a plug-in socket and a rubber sealing ring (Q ring). Impermeability test shall be made after installation of pipes.			
Pipes are of different diameters: DN 50, DN 75 DN 110.			
The unite price includes all works, materials, fittings, preparatory and finishing works, construction and closing of grooves, mounting on clamps, hooks and brackets, drilling holes in walls, floor slabs, inspection and testing for sound of each pipe or piece, pipe cutting, threading, joining, giving inclination, making pipe insulation as design or instructed by the supervisor, inspection of lines and temporary closure of the pipe opening for testing and etc. The unit price includes also the assembly and disassembly of the required scaffolding where the installation height requires it.			
Calculation per m1 of installed pipes.			

BoQ Item	C3.5.6	Unit	pcs
Unit price definition	Bathroom drain, for Ø50 mm connection		
Description			
Bathroom drain, for Ø50 mm connection			
Supply and installation of drains with siphon for blockage of odors even when the siphon is dry, nickel-plated cover with a frame, dimensions 15x15 cm. Bathroom drain is made of PVC with horizontal drain.			
Calculation per piece installed.			

BoQ Item	C3.5.7	Unit	m1
Unit price definition	Testing		
Description			
Testing of the installed sewerage pipelines for water permeability according to the manufacturer's instructions and method statement approved by the supervisor.			
Calculation per m1 of tested pipeline.			

BoQ Item	C4.1	Unit	pcs
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Unit price definition	Porcelain washbasin
<p>Description</p> <p>The wash basin shall be made of porcelain I class in accordance with ISO 9001 international quality standards. Dimensions cca 60x50 cm.</p> <p>The washbasin, white, glazed, with overflow, shall be resistant against mechanical impacts, corrosion and chemicals. The Wash Basin shall be fixed on wall with screws. The washbasin shall be mounted at 80 cm height. All the dimensions shall be applied according to the main design. Installation shall follow design requirements and manufacturers specifications.</p> <p>Washbasin will be connected to water system through 1/2 ", 30 - 50 cm flexible pipe and valve for water. Washbasin will be connected to the sewage system through brass, chromed siphon following the manufacturer's specifications. All the dimensions shall be applied according to the main design.</p> <p>On the wash basin the single lever basin faucet for cold water shall be mounted as well as accessories: washbasin syphon with filter, rosette, washbasin angle valve 3/8"–1/2"chrome, flexible water hose for washbasin stainless steel, hand drying paper towel holder, mirror 40x60 cm.</p> <p>Sample of the washbasin accompanied with quality certificate, certificate of origin, and warranty certificate will be submitted to the supervisor for approval before washbasin installation in the building takes place.</p> <p>Completion of work shall be in accordance with the main design and supervisor' requirements. Supervisor may require an additional test for the mechanical and physical data.</p> <p>Unit price includes all work and material as specified above.</p> <p>Calculation per piece of mounted washbasin with accessories.</p>	

BoQ Item	C4.2.	Unit	pcs
Unit price definition	WC set with high level toilet tank system		
<p>Description</p> <p>The WC sets shall be made of porcelain I class in accordance with ISO 9001 international quality standards. Toilet bowl with the high-quality plastic seat and lid with antibacterial treatment shall be mounted on floor. The toilet bowl shall be strongly fixed on the floor by screws and plugs. The height of toilet bowl set shall be 38-40 cm. Toilet tank is mounted and height of cca 70 cm. They will be installed in accordance with the main design and Supervisor's requirement. WC sets should provide a fast and big water flow. They should be resistant against mechanical impacts, corrosion and chemicals, and provide access for easy maintenance.</p> <p>The connection to sewerage system shall be through a siphon type pipe. The diameter should match the outlet of the WC set (The diameter is 100-110 mm). The connection of the WC set to the water system shall be realized to a flush toilet tank system (flush box) installed on the wall. The connection of the WC set and flush box to water and sewerage pipeline shall be in accordance with the manufacturer's recommendation.</p> <p>Sample of the WC set and flush box accompanied with quality certificate and warranty certificate will be submitted to the supervisor for the approval before WC installation in the building takes place.</p> <p>Completion of work shall be in accordance with the main design and supervisor requirements.</p>			

Supervisor may require an additional test for the mechanical and physical data.

Porcelain wall hung toilet: Color: white, Dimensions: cca 470x370x400 mm

Wall mounted toilet tank system: flush volume 5.0 l/3.0 l by EN

With WC set deliver also toilet role holders installed to the left/right of toilet bowl at height of 80 cm and brush for toilet cleaning.

Unit price includes all work and material as specified above.

Calculation per installed set.

BoQ Item	C4.3.	Unit	pcs
Unit price definition	Ceramic urinal		
<p>Description</p> <p>Supply and installation of the set of ceramic urinals with the following elements: ceramic urinal shell for wall mounting, drain valve, siphon, rosette, fittings, sensor for activating flushing, required connecting and sealing material, as well as mounting element for urinal installation. Height 112-130cm.</p> <p>Unit price include all works and material.</p> <p>Calculation per piece completely assembled.</p>			

Section 6: Electrical Installations

6.1.1. General remarks

This technical specification for the execution of works is an integral part of the tender documentation and will be an integral part of the Contract for the execution of works.

The contractor is fully acquainted with all the details of the submitted project, as well as with all the local ones regulations, local standards (MEST, common practice and circumstances for their enforcement, it is understood that whenever local regulations, local standards (MEST) or any common trade, is subject to any interpretation, clarification, ambiguity or in dispute will prevail the judgment of the Supervisor, always provided that such decision is fully accepted and will be based on the relevant local regulations, local standards (MEST), including, but not limited to:

- Rulebook on technical standards for low voltage electrical installations ("Official Gazette of the SFRY" No. 53/88),
- JUS N.B2.741 / 1989 security requirements
- Rulebook on technical standards for the protection of objects against atmospheric discharge ("Official Gazette of the SFRY" No. 11/96),
- Yugoslav Standards - Lightning Installations - General Conditions JUS IEC 1024 -1/1996
- Law on Fire Protection (Official Gazette of the Republic of Montenegro 79/04),
- Law on Occupational Safety and Health (Official Gazette of the Republic of Montenegro 34/14),
- Law on Spatial Planning and Construction of "Official Gazette of Montenegro" no. 064/17 of 06.10.2017.
- Technical Recommendation - Typing of measuring points (EPCG - Podgorica 2009) TP2ED

- Technical recommendation - for low-voltage consumer connections (TP-2 amended edition-Podgorica 2008)
- General Conditions for Electricity Delivery ("Official Gazette of the Republic of Montenegro" No. 1/90)
- Ordinance on the Supply of Electricity (Official Gazette of the Republic of Montenegro 13/05)
- MEST HD 60364-4-41: 2011 - Low-voltage electrical installations - Part 4-41: Safety protection - Shock protection
- MEST HD 60364-4-42:2011 - Low-voltage electrical installations - Part 4-42: Safety protection - Shock protection
- MEST HD 60364-4-43:2011 - Low-voltage electrical installations - Part 4-43: Safety protection - Overcurrent protection
- MEST HD 60364-5-51:2011 - Electrical installations of buildings - Part 5-51: Selection and installation of electrical equipment - General rules
- MEST HD 60364-5-52: 2011 - Electrical installations of buildings – Part 5-52: Selection and installation of electrical equipment - Wired systems
- MEST HD 60364-5-534:2011 - Low-voltage electrical installations - Part 5-534: Selection and erection of electrical equipment - Isolation, interruption and control - Clause 534: Surge protection devices.
- MEST HD 60364-5-54:2011 - Electrical installations of buildings - Part 5-54: Selection and erection of electrical equipment - Grounding methods, protective conductors and protective conductors
- MEST HD 60364-7-701:2011 - Low-voltage electrical installations - Part 7-701: Requirements for special installations or locations - Sites containing bathtubs or showers
- MEST EN 50274: 2010 - Low-voltage switchgear and controlgear - Protection against electric shock - Protection against accidental direct contact of dangerous active parts
- MEST EN 61543: 2009 - Differential current protective devices (RCD) for household and similar use - Electromagnetic compatibility
- MEST EN 50525-2-31:2011 - Electrical cables - Low-voltage power cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-31: General purpose cables - Unshielded single core cables with thermoplastic PVC insulation
- MEST EN 61140:2010 - Shock protection - Common aspects for installation and equipment
- MEST EN 1838:2011 - Application of lighting - Emergency lighting
- MEST EN 60529:2010 - Degrees of protection provided by enclosures (IP code)
- MEST EN 50368:2008 - Cable fasteners for electrical installations
- MEST EN 50425:2009 - Household switches and similar permanent installations
- MEST EN 60269-1:2010 - Low-voltage fuses - Part 1: General requirements
- MEST EN 60269-1:2010/A1:2010 - Low-voltage fuses - Part 1: General requirements
- MEST EN 60320-1:2008 - Plug accessories for household and similar general-purpose appliances - Part 1: General requirements
- MEST EN 60320-2-2:2008 - Plug accessories for household and similar general purposes - Part 2-2: Interfacing household and similar equipment
- MEST EN 60670-1:2010 - Boxes and housings for household electrical accessories and similar fixed electrical installations - Part 1: General requirements
- MEST EN 60670-22:2010 - Boxes and housings for electrical household accessories and similar fixed electrical installations - Part 22: Particular requirements for junction boxes and housing
- MEST EN 60730-2-14:2009 – Electrical apparatus for automatic control for domestic and similar use - Part 2-14: Particular requirements for electric actuators

- MEST EN 60898-1:2010 - Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for alternating current (a.c)

All work shall be performed accurately and professionally. Prior ordering all materials the Contractor shall deliver to the Supervisor all certificates, attest and other supporting documents proving that the technical characteristic of materials and devices are in accordance with main design and these technical specifications. and installation of all materials the Contractor shall obtain written approval of the Supervisor. Regardless comments of the supervisor, the Contractor the quality of work and materials will be the solely responsibility of the Contractor.

Contracted prices include all fully completed works, the final product and ready for use.

6.1.2. Unit description

BoQ Item	D1.1.	Unit	pcs
Unit price definition	Supply and installation of metal cabinet "RO-PR"		
Description	<p>Procurement, delivery and installation of the distribution cabinet "RO-PR". The cabinet is a workshop-made cabinet of appropriate dimensions, intended for surface mounting with doors and a locking lock. The item also includes all "small" elements necessary for the installation of the necessary equipment, switches and cable routing. The item includes the dismantling of the existing distribution cabinet. Install the following equipment in the distribution cabinet according to the single-pole scheme:</p> <ul style="list-style-type: none"> - disconnecter INS 1-0.40A, 3P - automatic switch iC60N-C/25A, 1p; 6 kA - protect the differential current device iLD 40/0.03, 4P - automatic switch iK60N-C/16A, 1p; 6 kA - automatic switch iK60N-C/10A, 1p; 6 kA - automatic switch iK60N-C/6A, 1p; 6 kA - contactor iCT 2NO, 16A, 230V 		

BoQ Item	D1.2.	Unit	pcs
Unit price definition	Supply and installation of metal cabinet "RO-S"		
Description	<p>Procurement, delivery and installation of the distribution cabinet "RO-S". The cabinet is a workshop-made cabinet of appropriate dimensions, intended for surface mounting with doors and a locking lock. The item also includes all "small" elements necessary for the installation of the necessary equipment, switches and cable routing. The item includes the dismantling of the existing distribution cabinet. Install the following equipment in the distribution cabinet according to the single-pole scheme:.</p> <ul style="list-style-type: none"> - disconnecter iSW 1-0, 32A, 3P - protect the differential current device iLD 40/0.03, 4P - automatic switch iK60N-C/16A, 1p; 6 kA - automatic switch iK60N-C/10A, 1p; 6 kA - automatic switch iK60N-C/6A, 1p; 6 kA - contactor iCT 2NO, 16A, 230V 		

BoQ Item	D1.3.	Unit	m
Unit price definition	Supply and installation of power lines from GRO to RO-PR as well as from RO-PR to distribution cabinet RO-S on the first floor		
Description			
Delivery and installation of power lines from GRO to RO-PR as well as from RO-PR to distribution cabinet RO-S on the first floor. The conductors are laid on the wall and ceiling under the plaster. Carry out the installation in all respects according to the technical description. The position includes trimming the ceiling and wall, electrical connection on both sides, as well as restoring damaged surfaces to their original condition. Set of deliveries with installation, connection and testing of conductors of the type:			
N2XH-j 5x10 mm ²			
N2XH-j 5x6 mm ²			

BoQ Item	D2.1.	Unit	pcs
Unit price definition	Electrical conductor, type N2XH-J 5x2,5mm ²		
Description			
Delivery of materials and installation of three-phase connection points, with conductor N2XH-J 5x2.5mm ² . The conductors are laid partly on the wall and partly on the ceiling through halogen-free ducts of appropriate dimensions. Carry out the installation in all respects according to the technical description. The item includes the procurement of halogen-free ducts of suitable dimensions, electrical connection on both sides, as well as bringing the damaged surfaces to their original condition. Calculation per m1 of installed conductor.			

BoQ Item	D3.1.	Unit	pcs
Unit price definition	Electrical conductors of lighting N2XH-J 3x1,5 mm ²		
Description			
Delivery of materials and execution of lighting circuits, without installation of switches, bulbs and lamps. The conductors are laid on the wall and ceiling under the plaster. Carry out the installation in all respects according to the technical description. The position includes cleaning the ceiling and wall, electrical connection on both sides, as well as restoring damaged surfaces to their original condition.			

BoQ Item	D3.2.	Unit	pcs
Unit price definition	Electrical conductor,N2XH-j 4x1.5 mm ²		
Description			

Delivery of materials and execution of signal cables from RO-PR and RO-S to the porter's office for the needs of lighting control in the corridors. The conductors are laid on the wall and ceiling under the plaster. Carry out the installation in all respects according to the technical description. The position includes trimming the ceiling and wall, electrical connection on both sides, as well as restoring damaged surfaces to their original condition. On average, one bulb is laid:
N2XH-j 4x1.5 mm²

BoQ Item	D3.3.	Unit	pcs
Unit price definition	Dismantling of existing lamps		
Description	Dismantling of existing lamps. Dismantled lamps must be stored at a location determined by the Investor. Calculation per piece of the dismantled lamp.		

BoQ Item	D3.4.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a surface LED lamp (S1)		
Description	Delivery of materials and execution of signal cables from MRO to floor boards for the needs of lighting control in corridors. The conductors are laid partly on the wall and partly on the ceiling through halogen-free ducts of appropriate dimensions. Carry out the installation in all respects according to the technical description. The item includes the procurement of halogen-free ducts of suitable dimensions, electrical connection on both sides, as well as bringing the damaged surfaces to their original condition. Calculation per m of installed conductor.		

BoQ Item	D3.4.1.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a built-in lamp housing.		
Description	Procurement, delivery and installation of a built-in lamp housing.		

BoQ Item	D3.5.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a built-in LED lamp (S2)		
Description	(S2) Procurement, delivery and installation of a built-in LED panel, luminous flux of the lamp 3754lm, lamp efficiency 110 lm/W, total input power of the lamp 34W, external connection box allows wiring from the loop, without flickering, CRI 80, 4000K, degree of protection IP20/ IP44, mechanical protection IK02, weight 2.58 kg, dimensions 596 x 596 x 26 mm, similar to type ANNA LED Q596 3750 840, manufactured by Thorn. The lamp is delivered complete with a light source, necessary equipment for work.		

BoQ Item	D3.5.1.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a built-in lamp housing.		
Description	Procurement, delivery and installation of a built-in lamp housing.		

BoQ Item	D3.6.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a surface LED lamp (S3)		
Description (S3) Procurement, delivery and installation of a surface LED lamp, total input power 33.3 W, output luminous flux of the lamp 3900lm, grade, light color temperature 4000K, lamp efficiency 117lm/W, characteristics of the light source MacAdam 3, 50,000 working hours before the decline of the luminous flux at 90% of the initial value at 25°C, el. ballast integrated inside the lamp, intended for operation at an ambient temperature of -20°C to +25°C, made of plastic, diffuser made of polymethyl meacrylate, degree of protection IP50, white color, dimensions 1220x120x91mm, weight 2.5 kg, similar to the PERLUCE O type LED3800-840 L1220 EVG IP50 WH manufactured by Zumtobel. The lamp is delivered complete with a light source and all necessary equipment for work.			

BoQ Item	D3.7.	Unit	pcs
Unit price definition	Supply, delivery and installation of a built-in wall reflector (S4)		
Description			
(S4) Supply, delivery and installation of a built-in wall reflector, LED light source, input power 30W, universal mounting bracket allows for wall or surface mounting with the possibility of tilting up or down, cast aluminum body (<5% copper), steel console , gray color (RAL 9006), PC lens, lamp efficiency 100 lm/W, luminous flux 3000 lm, CRI 80, 4000 K, dimensions 153x140x51, effective 130x135x51, lamp weight 0.53 kg. Similar type: LEONIE LED FL IP65 30W 840, manufactured by Thorn.			

BoQ Item	D3.8.	Unit	pcs
Unit price definition	Procurement, delivery and installation of an overhead LED lamp (S5)		
Description			
(S5) Procurement, delivery and installation of an overhead LED lamp, total input power 16.3W, output luminous flux of the lamp 1950lm, light color temperature 4000K, lamp efficiency 120lm/W, characteristics of the light source MacAdam 3, 50,000 working hours before the luminous flux drops to 80 % of initial value at 25°C, el. ballast integrated inside the lamp, made of polycarbonate, gray color, degree of protection IP65, mechanical protection IK10, has ENEC and CE certificate, dimensions Ø307 x 58 mm, weight 0.98 kg, similar to type KAT RD 2000-840 HF manufactured by Thorn. The lamp is delivered complete with a light source and all necessary equipment for work.			

BoQ Item	D3.9.	Unit	pcs
Unit price definition	Procurement, delivery and installation of an overhead LED lamp with an integrated presence sensor (S6)		
Description (S6) Procurement, delivery and installation of an overhead LED lamp with an integrated presence sensor, radius of action 4m, total input power 16.3W, output luminous flux of the lamp 1950lm, light color temperature 4000K, lamp efficiency 120lm/W, characteristics of the light source MacAdam 3, 50,000 working hours before the light flux decreases to 80% of the initial value at 25°C, el. ballast integrated inside the lamp, made of polycarbonate, gray color, degree of protection IP65, mechanical protection IK10, has ENEC and CE certificate, dimensions Ø307 x 58 mm, weight 0.98 kg, similar to type KAT RD 2000-840 HF manufactured by Thorn. The lamp is delivered complete with a light source and all necessary equipment for work.			

BoQ Item	D3.10.	Unit	pcs
Unit price definition	Procurement, delivery and installation of a built-in anti-panic LED lamp (P1)		
Description (P1) Procurement, delivery and installation of a built-in anti-panic LED lamp, total input power 4 W, lamp output luminous flux 130lm, lamp efficiency 32lm/W, autonomy 3h, source characteristics, expected life of the lamp 50,000 at 25°C, el . ballast integrated inside the lamp, intended for operation at an ambient temperature of +5°C to +30°C, made of cast aluminum, degree of protection IP40, white color approximately RAL9016, dimensions 146x146x34mm, weight 1 kg, similar to VOYAGER STAR MSC ANT type E3 WH manufactured by Thorn. The lamp is delivered complete with a light source and all necessary equipment for work.			

BoQ Item	D3.11.	Unit	pcs
Unit price definition	Procurement, delivery and installation of an overhead wall LED lamp for evacuation routes (P2)		
Description (P2) Procurement, delivery and installation of an overhead wall LED lamp for evacuation routes with min. 1 lux in accordance with EN1838, suitable for a room height of 2.2-7m, total input power 4.7 W, neutral white 4,000 K, output luminous flux of the lamp 181lm, lamp efficiency 39lm/W, autonomy 3h, intended for operation at ambient temperature from +5°C to +30°C, polycarbonate lens, powder-coated die-cast aluminum housing, degree of protection IP65, impact strength: IK04, lamp with symbol D (for use in environments where conductive dust can be expected to accumulate on lamps) white color approximately RAL9016, dimensions 200x145x64 mm, weight 0.99 kg, similar to type RESCLITE PRO MSW ESCW E3D WH IP65			

manufactured by Zumtobel. The lamp is delivered complete with a light source and all necessary equipment for work.

BoQ Item	D3.12.	Unit	pcs
Unit price definition	Procurement, delivery and installation of reflectors with LED light source (R1)		
Description (R1) Procurement, delivery and installation of reflectors with LED light source, total input power 45W, output luminous flux of the lamp 4500 lm, light color temperature 4000K, lamp efficiency 100lm/W, asymmetrical optics, made of light gray cast aluminum (RAL9006). 50,000 working hours before the luminous flux drops to 85%, el. ballast integrated inside the lamp, degree of protection IP66, IK07, dimensions 181x236x48mm, weight 1.7kg, the lamp has CE and ENEC certification, similar to the LED Fit type manufactured by Thorn. The lamp is delivered complete with a light source and all necessary equipment for work.			

BoQ Item	D4.1.	Unit	set
Unit price definition	Modular accessories white color 2M		
Description Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box 2M, armature 2M, mask 2M, socket 2P+E 16A, 2M white - 1pc			

BoQ Item	D4.2.	Unit	set
Unit price definition	Procurement, delivery and installation of of modular accessories, white color, built-in PVC box 3M		
Description Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box 3M, armature 3M, mask 3M, socket 2P+E 16A, 2M white - 1pc, blind module, 1M white - 1pc			

BoQ Item	D4.3.	Unit	set
Unit price definition	Procurement, delivery and installation of modular accessories, white color, built-in PVC box 3M		
Description Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box 3M, armature 3M, mask 3M, socket 2P+E 16A, 2M white - 1pc, connector 2P+E, 1M white - 1pc			

BoQ Item	D4.4.	Unit	set
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Unit price definition	Procurement, delivery and installation of modular accessories, white color, built-in PVC box 6M
Description	Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box 6M , armature 6M, mask 6M, socket 2P+E 16A, 2M white - 2pc, connector 2P+E, blind module, 1M white - 2 pcs

BoQ Item	D4.5.	Unit	set
Unit price definition	Procurement, delivery and installation of modular accessories, white color, built-in PVC box Ø60 mm for installation in concrete		
Description	Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box Ø60 mm for installation in concrete, armature 2M, decorative mask 2M, ordinary switch 2M - 1pc		

BoQ Item	D4.6.	Unit	set
Unit price definition	Procurement, delivery and installation of modular accessories, white color, built-in PVC box 12M for installation in concrete		
Description	Procurement, delivery and installation of modular accessories similar to the type TEM Čatež, Schneider electric, Legrand..., white color, built-in PVC box 12M for installation in concrete, white color, armature 12M, decorative mask 12M, ordinary switch 2M - 2pcs, ordinary switch with indicator 1M - 7 pcs Calculation per installed set.		

BoQ Item	D5.1.	Unit	m
Unit price definition	Galvanic connection of all metal masses - conductor with halogen-free insulation 1x6mm ²		
Description	Make a galvanic connection of all metal masses in the building that do not belong to the electrical installation with a fine-wire conductor, a conductor with halogen-free insulation 1x6mm ² (metal handrails, gratings, metal doors,...). Calculation per m.		

BoQ Item	D6.1	Unit	LS
Unit price definition	Examination of newly designed installations with obtaining a certificate.		
Description	Examination of newly designed installations with obtaining a certificate.		

BoQ Item	D7.1	Unit	m
Unit price definition	Delivery and laying of FTP cables cat. 6		
Description	Delivery and laying of FTP cables cat. 6, FRNC tested up to 400MHz, certificates DELTA & 3P - 'Fly', 4 face pairs, instead of a cross element between the pairs, a metal foil is placed in a zigzag		

pattern, which gives better characteristics than the Standard FTP cat. 6 cables (High Performance STP), FRNC (halogen-free sheath, non-flammable and smoke-free); other certificates ISO9001, ISO14001, RoHS for the distribution from the REK cabinet to the positions of the RJ45 connectors, all according to the attachment from the project. Cables are laid in protective installation PVC pipes/cable ducts. The item includes delivery and work, and is paid per meter of cable laid.

BoQ Item	D7.2	Unit	pcs
Unit price definition	Delivery, installation and connection to the wall of telecommunications single-module socket FTP RJ45 cat.6.		
Description	Delivery, installation and connection to the wall of telecommunications single-module socket FTP RJ45 cat.6. from the Legrand program or similar.		

BoQ Item	D7.3	Unit	m
Unit price definition	Delivery and laying of flexible RBC hoses, halogen-free - Ø20 mm.		
Description	Delivery and laying of flexible RBC hoses, halogen-free - Ø20 mm.		

BoQ Item	D7.4	Unit	LS
Unit price definition	Fine unspecified material		
Description	Fine unspecified material		

BoQ Item	D8.1	Unit	pcs
Unit price definition	Supply, delivery and installation of Anti-Vandal IP video camera in dome housing similar to type DCN-VV743		
Description	Supply, delivery and installation of Anti-Vandal IP video camera in dome housing similar to type DCN-VV743, 4Mpx/25fps, 3.3 - 12 mm, H.265, ICR, IC LED 20-30 m, 12V DC/PoE, audio in, Onvif.		

BoQ Item	D8.2	Unit	m
Unit price definition	Delivery and laying of FTP cables cat. 6		
Description	Delivery and laying of FTP cables cat. 6, FRNC tested up to 400MHz, certificates DELTA & 3P - 'Fly', 4 face pairs, instead of a cross element between the pairs, a metal foil is placed in a zigzag pattern, which gives better characteristics than the standard FTP cat. 6 cables (High Performance STP), FRNC (halogen-free sheath, non-flammable and smoke-free); other certificates ISO9001, ISO14001, RoHS for the distribution from the REK cabinet to the positions of the planned cameras, all according to the attachment from the project. Cables are laid in cable racks or in protective installation PVC pipes/cable ducts. The item includes delivery and work, and is paid per meter of cable laid.		

BoQ Item	D8.3	Unit	pcs
Unit price definition	Fine unspecified material		
Description	Fine unspecified material		

BoQ Item	D9.1	Unit	pcs
Unit price definition	Dismantling of the existing elements of the low current installation.		
Description	Dismantling of the existing elements of the low current installation.		