

# Kosovo Challenge Fund - Support Programme to vocational education and training (VET) in Kosovo

Project

**KCF 200002 - KOS Ferizaj, Technical School "Pjeter  
Bogdani", Ferizaj, Kosovo**

Document title

**Technical Specifications Construction– Short version for  
Contractor**

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<b>1</b>	<b>Construction Technical Specifiactions .....</b>	<b>3</b>
1.1	Locantion and project description.....	4
1.2	Plans .....	5
1.3	Tecchnical description of Works.....	9
1.4	Details of Materials.....	10-17
<b>2</b>	<b>Mechanical Technical Specifiactions .....</b>	<b>17</b>
2.1	Mechanical Installations.....	18
2.2	Technical Details .....	19
2.3	Maps and design.....	18

## **TECHNICAL REPORT ON THE WORK DESCRIPTION FOR THE ANNEX OF THE TECHNICAL SCHOOL "PJETËR BOGDANI"**



The planned works for constructing the annex of the workshop at the technical school “Pjetër Bogdani” include the following:

### **1. Construction Works**

The initial tasks involve preparing the foundation and supporting structure. This includes laying a leveling layer on gravel tamp with lean concrete MB15, as well as concreting strip foundations and foundation walls with reinforced concrete MB30. Additionally, the floor slab and its connection to the existing corridor will be completed, including concreting of columns, floor beams, and tie beams using the same grade of concrete.



The project also includes the masonry and plastering of the building's walls using Giter blocks and ready-made plaster MP75. Preliminary treatment of the walls with bonding concrete and the installation of metal lathes for structural reinforcement are part of this phase.



## KCF 200002 – Technical Specification

The roofing will consist of “Sandwich” panels and plastic-coated metal sheets of the "LINDAB" type, along with all necessary insulation and mounting components.

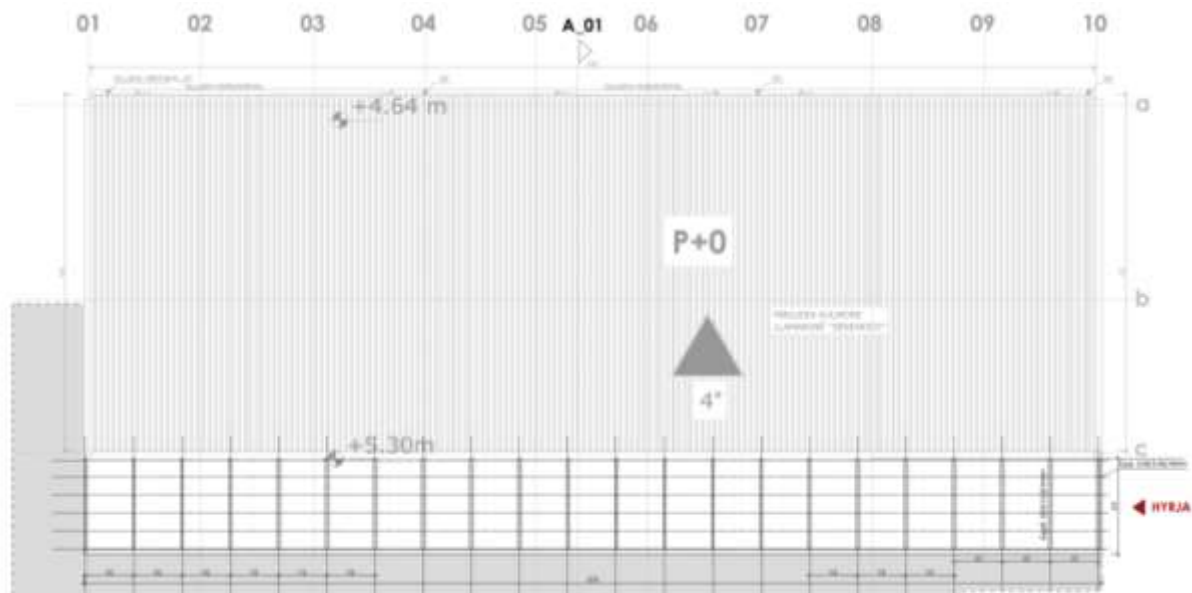


Fig: Roof Plan +5.30

#### • Doors and Windows Technical Specification

Aluminum and thermally insulated plastic-coated doors and windows will be installed, featuring vacuum glass and high-quality accessories. Ceramic tiles will be placed in sanitary areas, and waterproofing for the floor slab will be applied along with other treatments to ensure the longevity of the structure. Supply and installation of windows made of anodized and plasticized aluminum with a thermal break.

Openings should include both vertical and horizontal types. The glass should be vacuum 5+12+4, fixed with EPDM elastic rubber vulcanized at the corners.

The windows must be mounted with hinges and appropriate handles. The profiles should have a color of RAL 7022 Anthracite Grey and be manufactured by ALUMIL or of equivalent quality.

Supply and installation of double-leaf interior doors made of anodized and plasticized aluminum with a thermal break.

The surface of the leaves should be filled with vacuum glass 5+12+4, with the glass fixed using EPDM elastic rubber vulcanized at the corners. The doors must be mounted on three hinges, equipped with appropriate handles, and a cylinder lock with a minimum of three keys.

The profiles should have a color of RAL 7022 Anthracite Grey and be manufactured by ALUMIL or of equivalent quality. Item Code: POS D\_01.

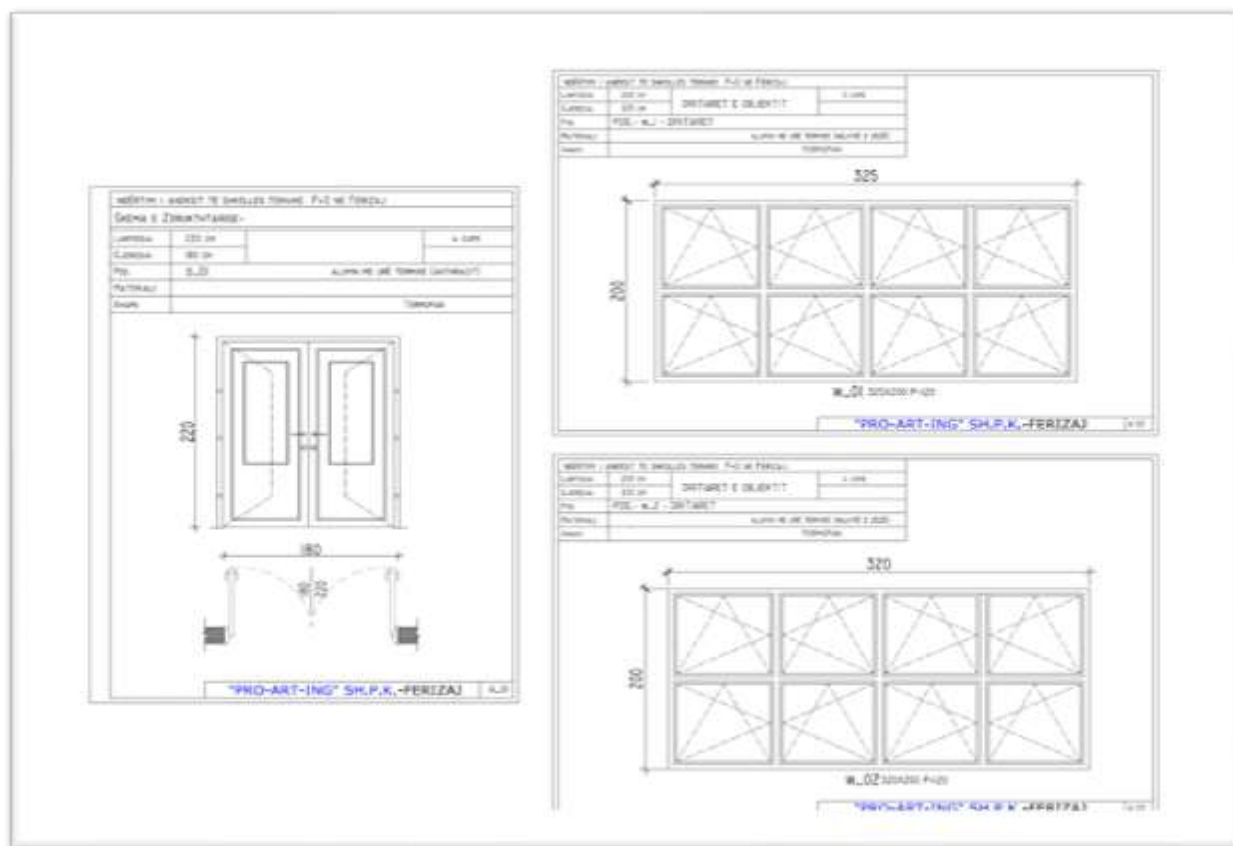


Fig: Windows and Doors Plans

- **Plumbing and Sewage Installations**

The plumbing and sewage systems will involve the installation of PEHD and PVC pipes for water supply and wastewater drainage. Inspection chambers for sewage will be installed along with sanitary fixtures such as sinks and hydrants. All pipelines will be pressure-tested and connected to the existing water and sewage networks, ensuring high standards of functionality and hygiene.

- **Electrical Installations**

The electrical works will include the wiring of the lighting and socket network, installation of electrical panels and circuit breakers, and fitting of energy-efficient LED lights. Additionally, grounding systems and lightning rods will be installed to protect the building. The network will be tested to ensure full functionality.

The electrical installations in this building are planned to be executed in accordance with the applicable technical regulations (see the chapter on general rules for electrical installations).

- The circuits for single-phase sockets, internet sockets, and fixed-line telephone sockets are planned to be installed using electrical installation conduits. These conduits will be placed in the floor and walls of the building as needed.
- The circuits for electric lighting will be implemented using PP-Y 31.5mm<sup>2</sup> cables and PE-GYP Ø13 installation conduits.
- The circuits for single-phase sockets will be implemented using PP-Y 32.5mm<sup>2</sup> cables and PE-GYP Ø16 installation conduits.
- The circuits for three-phase sockets will be implemented using PP-Y 5\*2.5mm<sup>2</sup> cables and PE-GYP Ø20 installation conduits.
- The electrical installations are planned to be done beneath plaster; therefore, the electrical circuit lines are not shown in the electrical drawings. These electrical lines run from the distribution panels to the sockets, switches, etc., with each consumer marked by the corresponding fuse number in the relevant distribution panel.
- The electric meters for the apartments and commercial units are planned to be installed at the main entrances of the apartments on the ground floor.

## MAIN ELECTRICAL DISTRIBUTION CABINETS

In the building, main electrical distribution panels (cabinets) are planned for supplying the electrical systems. For the electrical consumer system, cabinet **K1** is foreseen.

The cabinet must be fully equipped according to the single-line diagrams with automatic circuit breakers, in compliance with **EN 60947-2**. The type of circuit breakers is specified in the single-line diagrams.

The cabinet's input and output connections must be from the top side. All entries to the cabinets must be executed with suitable cable glands and terminations, using proper sealing.

All necessary components must be provided, such as:

- Insulators
- Copper cable lugs
- Bridging materials
- Rails for reinforcement and module mounting
- Flexible conductors
- Busbars for the neutral and grounding conductors

Other requirements:

- A 20% reserve space must be left free.
- Grounding and neutral busbars must be separated.
- All elements inside the cabinets must be labeled with adhesive markers as shown in the single-line diagrams.
- All cabinets must contain accurate single-line diagrams reflecting the actual state.

- The contractor is obligated to present the manufacturer's certificate for these cabinets before installation.

## CABLE DISTRIBUTION

In the building, the connection of several secondary cabinets to the main system cabinets, aside from the previously mentioned busbar systems, is also carried out using appropriately sized cables.

These cables must be installed in suitable electrical conduits or in cable trays sized according to the number of cables, or in appropriate OG cable holders where they pass over plaster, or in self-extinguishing ribbed PVC flexible tubes (V2-rated) with appropriate diameter where they pass under plaster.

All this must be executed strictly according to IP standards, which regulate the relationship between electrical installations and other installations in the building.

The same method applies to the cables connecting lights, switches, sockets, and other devices to the secondary distribution cabinets.

An exception is the installation of computer sockets in areas where special multi-modular floor boxes are used, with cables routed under the technical flooring designed for this purpose, or in galvanized two-piece metal ducts placed under the floor.

The drawings show the cable cross-sections and the positions of the relevant cabinets. They also indicate the locations of the sockets and electrical consumers.

All cables in the building are foreseen to be of the **PP-Y** type with cross-sections up to **10 mm<sup>2</sup>** and the appropriate number of conductors. Cables with cross-sections larger than 10 mm<sup>2</sup> must be flexible, of **PP** type, and have the appropriate number of conductors as per the drawings and single-line diagrams.

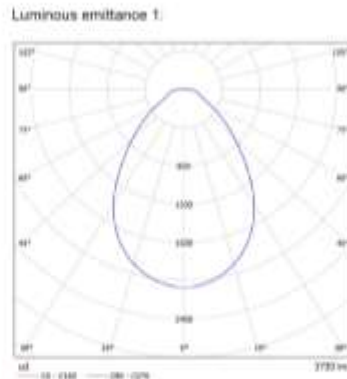
## ELECTRICAL LIGHTING INSTALLATION

The lighting in the building is artificial lighting. Artificial lighting enables human activity at all times. It contributes to the development of industrial production, increases work efficiency, and allows work during nighttime, among other benefits.

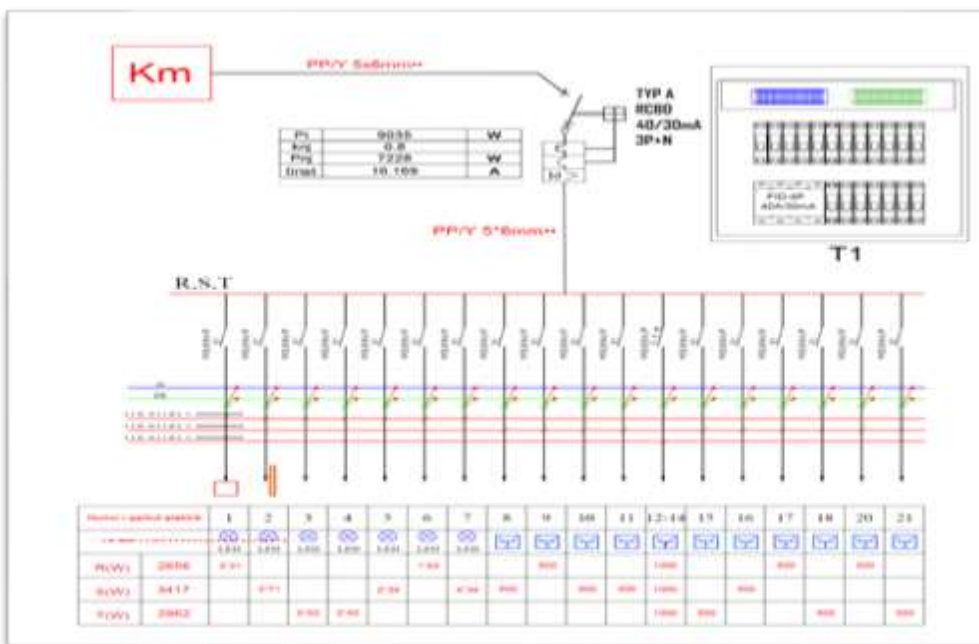
The main characteristics of lighting are:

1. **Luminous flux** (measured in lumens)
2. **Light intensity** (measured in candelas)
3. **Illumination level** (measured in lux)





Luminous emittance 1:

[illegible]

KCF 200002 – Technical Specification

#### 4. Heating and Cooling Systems

The heating and cooling system will include the installation of HVAC equipment to provide efficient air conditioning and heating. Ventilation and air circulation systems will be integrated into the workshop spaces to ensure optimal working conditions and energy efficiency. All systems will undergo testing to ensure proper performance and functionality.

Model	Qty	Description
MDV-252W/DRN1-i(B)	1	DC Inverter V4 Plus(380V Individual)
MDV-D36Q4/N1-A3	5	Compact Four-way Cassette
MDV-D45Q4/N1-A3	1	Compact Four-way Cassette
FQZHN-02D	2	Distributor
FQZHN-01D	3	Distributor
Ø22.2	9.0m	Copper Pipe
Ø12.7	25.0m	Copper Pipe
Ø9.53	14.0m	Copper Pipe
Ø19.1	11.0m	Copper Pipe
Ø6.35	19.0m	Copper Pipe

Tab: List of Materials

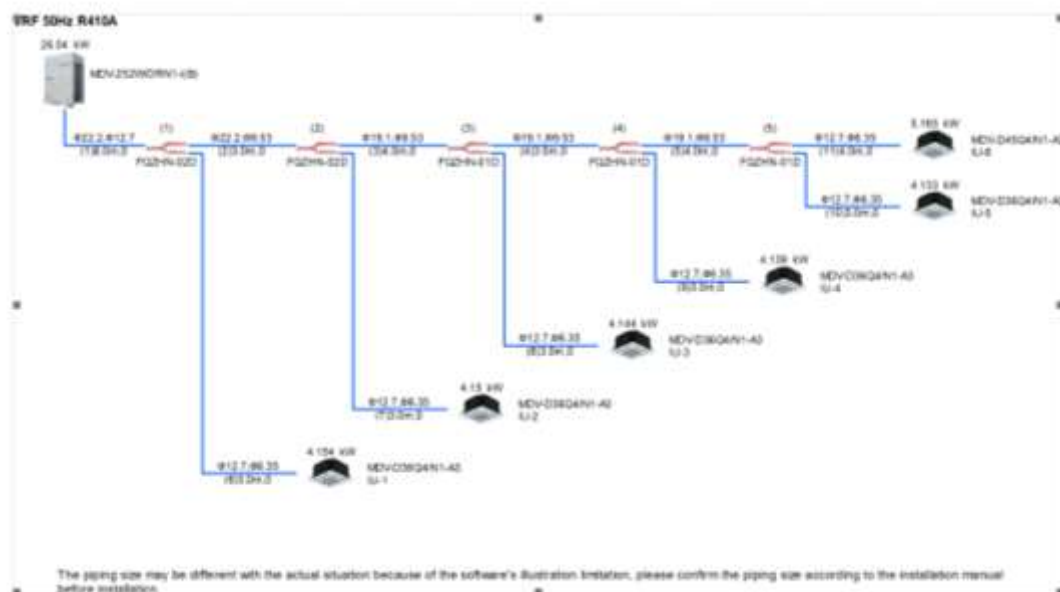


Fig: HVAC Schema ( MINI VRF)

