

**SPECIFICATION OF THE SUBJECT OF THE CONTRACT
ATTACHMENT NO. 1 TO THE REQUEST FOR QUOTATION**

KPOD.01.11-IP.06-0146_23/A2.1.1./2024/11 z dnia 01.08.2024 r.

As part of the project titled „*Zwiększenie zg. z koncepcją Przemysłu 4.0 zdoln.produkc. PEKABEX BET S.A. poprzez uruchomienie zautomatyzowanej, zrobotyzowanej i zintegrowanej z cyfrowymi procesami zarzadz. produkcją linii wytwarzania ścian prefabryk. w zakładzie w Bielsku-Białej*”, implemented under the National Recovery and Resilience Plan (KPO) program, Component A, Specific Objective A2., Reform A2.1., Investment A2.1.1. i.e. Investments supporting robotization and digitization in enterprises. The following elements are planned to be acquired:

Object of the supply

Delivery, commissioning, and implementation of an automated sustainable concrete production system (1 set). The system consists of a central concrete manufacturing plant along with a recycling and water purification system (1 set), equipped with a localization and concrete delivery system using rail trolleys (1 set), and a set of temperature and humidity sensors as well as strain gauges in the mixing unit (1 set).

As part of the project, the contractor will deliver, integrate and implement mobile silos for use, including:

- Design and layout placement of the central concrete manufacturing plant, monitoring system for concrete delivery location, along with the specification and placement of temperature and moisture sensors,
- Delivery and installation of the approved layout, installation of current collectors, radio remote controls, control panels, and limit switches,
- Preparation of as-built documentation,
- Participation in the acceptance process,
- Handover of the equipment for operation,
- Training of authorized personnel in the use of the equipment, in accordance with safety requirements and standards.

Technical Parameters of the Automated Sustainable Concrete Production System (1 set)

1. Main Aggregate loading:

- 1.1. Construction made of structural steel, e.g., ST232, ST275, ST355.
- 1.2. Roller axle pins and shafts made of carbon steel, e.g., 42CrMo4.
- 1.3. Tank volume: 22 – 26 m³.
- 1.4. Quantity: 1 piece.
- 1.5. Vibrator: at least 1 piece.
- 1.6. Sensor indicating the end of aggregate pouring.
- 1.7. Length and width of the conveyors must be precisely described in the layout.
- 1.8. The conveyor belt must have a roof to protect against weather conditions.
- 1.9. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-
- 1.10. Hot-dip galvanizing compliant with PN-EN 1461. 1.11. Execution class EXC2 according to PN-EN 1090.
- 1.11. Safety fence around the hazardous area.

- 1.12. Removable and replaceable grate under the aggregate feeder.
- 1.13. Sensors indicating the level of aggregate.

2. Tower Construction and Aggregate Dosing

- 2.1. Construction made of structural steel e.g., ST232, ST275, ST355.
- 2.2. Roller axle pins and shafts made of alloy/carbon steel e.g., 42CrMo4, NiCrMo5
- 2.3. The tower structure should be built on 5 different levels:
 - 2.3.1. The first level should have a platform for the maintenance of the discharge hoppers.
 - 2.3.2. The second level should have mixers installed.
 - 2.3.3. The third level should have the weighing system, aggregate, and cement dosing system.
 - 2.3.4. The fourth level should provide access to aggregate bins and sensors to facilitate maintenance of all installed equipment.
 - 2.3.5. The fifth level should have devices for the transport and loading of aggregates.
- 2.4. Tank volume: 55 – 65 m³
- 2.5. Quantity: 8 szt.
- 2.6. Main transport conveyors equipped with scrapers.
- 2.7. Aggregate scale capacity: 2 – 3 m³.

3. Cement Dosing

- 3.1. Use of three mobile silos, each approximately 80 m³, equipped with sensors such as:
 - 3.1.1. Maximum level detectors.
 - 3.1.2. Overpressure valves.
 - 3.1.3. Manual valves at the discharge gate with a shut-off/safety valve..
 - 3.1.4. Sensors indicating the level of cement.
- 3.2. Cement delivery by conveyor belt, with the length to be precisely determined in the layout during the order. For now, an assumed length is 4 m with a diameter of 230 mm.
- 3.3. Load capacity per cycle: approximately 800kg.
- 3.4. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
- 3.5. Hot-dip galvanizing compliant with PN-EN 1461.

4. Water Dosing
 - 4.1. Automatic valves for water inlet and outlet.
 - 4.2. One scale approximately 400 liters for each mixer.
 - 4.3. Final water dosing calculated using a moisture probe.
 - 4.4. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
 - 4.5. Hot-dip galvanizing compliant with PN-EN 1461.
5. Additive Dosing
 - 5.1. Automatic valves for water inlet and outlet.
 - 5.2. Two scales approximately 30 liters for each mixer.
 - 5.3. Automatic dosing of additives according to set recipes.
 - 5.4. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
 - 5.5. Hot-dip galvanizing compliant with PN-EN 1461.
6. Concrete Mixer
 - 6.1. Construction made of structural steel, e.g., ST232, ST275, ST355.
 - 6.2. Lining made of material: Hardox400 or similar properties.
 - 6.3. Roller axle pins, shafts, gears made of alloy steel, carbon steel, e.g., 42CrMo4, NiCrMo5.
 - 6.4. Mixer volume: 3000 liters.
 - 6.5. Concrete capacity: 2000 liters.
 - 6.6. Automatic dosing of additives according to set recipes.
 - 6.7. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
 - 6.8. Hot-dip galvanizing compliant with PN-EN 1461.
7. Washing and Recycling Device:
 - 7.1. Automatic washing system with a high-pressure pump, with a working pressure of 100 bar.
 - 7.2. Water flow: approximately 150 liters/min.
 - 7.3. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
 - 7.4. Recycling system recovers water from washing the mixer and directs it to a side tank, where it is reused for batching.
 - 7.5. Side tank with a propeller of approximately 1.5 m in diameter.
 - 7.6. Tank capacity: approximately 4 m³.
 - 7.7. Container with water pumps for supplying recycled water to mixers.
 - 7.8. Corrosion resistance of the paint coating at least C3, compliant with PN-EN ISO 12944-5 or stainless steel.
 - 7.9. Hot-dip galvanizing compliant with PN-EN 1461.

Execution requirements:

1. Aggregate moisture probes.
2. Concrete moisture probe: 2 pieces (one on the mixer).
3. Monitoring and collecting data on concrete consistency into a database.
4. Electrical cabinets made of steel with a protection rating of at least IP45.
5. Complete cabling on the Contractor's side.
6. Electronic equipment on the Contractor's side.
7. Devices and sensors included in the concrete production system will be equipped with M2M/IoT communication controller sets along with software and hardware and will be integrated with the other IT Systems provided for in the project.

Comments/ notes

In the framework of the tender, a conditional contract is planned, dependent on the Contracting Authority obtaining funding (signing an agreement with the Ministry of State Assets - MAP) under the National Recovery Plan for the project „Zwiększenie zg. z koncepcją Przemysłu 4.0 zdoln.produkc. PEKABEX BET S.A. poprzez uruchomienie zautomatyzowanej, zrobotyzowanej i zintegrowanej z cyfrowymi procesami zarządz. produkcją linii wytwarzania ścian prefabryk. w zakładzie w Bielsku-Białej„ (Investment: A2.1.1. Investments supporting robotics and digitalization in enterprises). Payment is expected to be divided into several stages:

Stage 1) 30% of the total contract value as an advance payment, upon notification by the Purchaser to the Contractor of obtaining financing and the need to commence work.

Stage 2) 45% of the total contract value as an advance payment, payable within 14 days from the date of delivery of the subject of the contract.

Stage 3) 25% of the total contract value, payable within 14 days based on a VAT invoice issued after the final acceptance is signed by the Purchaser.

In the event that the Contracting Authority does not obtain funding (does not sign the agreement with MAP), the contract will be terminated due to the abandonment of the project. The contract termination, in the case of the above condition, will occur on the last working day of the month in which the Contracting Authority informs the Contractor of this fact.

Pekabex Bet S.A.

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Data i miejsce

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Podpis upoważnionego
przedstawiciela Oferenta/Wykonawcy