



Tender No.: 2020/FNPSE/FNPSE/105249

17 April 2020

Bill No. 13 Refrigerator

Item	Description	Unit	QTY.	Unit Price \$	Total Price \$
13	<p>Supply, Install, Test and Commission Four complete walk-in refrigerators for fruits. Controlling cooling room indoor temperature and humidity at design values, according to design dimensions, specifications, scope of works and supervision engineer instructions.</p> <p>1-Contractor shall submit shop drawing for any parts could be not clear and take approval from supervisor engineer.</p> <p>2.The rate include Samples for approval and all the required tests.</p> <p>3-Rate include supply and spread a polyethylene plastic sheet 1 mm thickness above the Base-course layer and above the internal concrete floor according to the drawings, specifications and instructions of the supervising engineer.</p> <p>4-Supply, fabricate and fix reinforcement steel (fy= 420 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings.</p> <p>5-Rate include dismantle 6 existing old refrigerators , and transfer them to the municipality stores according to instructions of supervisor ,and demolish all concrete and block items, work include all structure, mechanical and electrical works.</p> <p>6-rate include dismantle the existing steel shed , and transfer it to the municipality stores according to instructions of supervisor.</p> <p>7-Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer, the strokes of each layer to be opposite to each other.</p> <p>8- Laying out the buildings coordinates to be carried out by professional surveyor using total station device or GPS and submit all items as GIS according to municipality specifications.</p>				
13.1	Excavate, cut or fill the area from natural ground level to the design levels as show at drawings , the price include cut existing concrete layer, existing base course or granular gravel soil (Zalateia) carefully at whole width of area and keep it under responsibility of contractor, compaction by 8 ton compactor up to 98 % maximum dry density at layers not exceeding 30cm ,the rate include disassemble the existing	L.S	1		



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	items of 3 cooling rooms and steel shed and transfer them to storage, demolish and remove any concrete items at below of cooling rooms.			
13.2	Supply and lay base course 20cm thickness at two layers to the design levels shown in the approved shop drawings or as specified by the Project Supervisor. This includes 100% compaction where the CBR not less than 80% and as per specification with roller machinery(8 ton), watering and conducting engineering tests as instructed by the Project Supervisor, work include preparing and adjust the surface to receive the tiles.	M2	225	
13.3	Supply and cast an initial reinforced concrete layer for the cold storage unit floor (concrete type B250) with a total thickness of 10 cm including reinforcement steel layer in both directions 8 mm each 20 cm. The price also includes installing four reinforced concrete ramps (ø8@20cm in both directions) at each entrance of the 4 cold storage sections. Each ramp with a total length of 3m starting with height of 20cm at entrance and descends with a slope of 10% till reaching the normal land level, This includes establishing external reinforced concrete beams (panel) along the internal perimeter of the sandwich panel walls with (15 cm width X 65cm high above ground floor). This shall be done according to the drawings, specifications and instructions of the supervising engineer	M2	225	
13.4	Supply and Install a layer of Land bank (Polyurethane) boards for floor insulation (10 cm thickness) that covers the whole area above the plastic sheet, according to the drawings, specifications and instructions of the supervising engineer	M2	225	
13.5	Supply and cast a reinforced indoor concrete (B250) floor after building the structure of the cooling unit with 25cm thickness. Concrete reinforcement is done by double-layer steel mech 25 cm thickness, the steel bars of the lower layer is 14 mm diameter in both direction while the bars of the upper layer is 12 mm diameter each 20 cm in both directions, rate include steel chairs (12mm diameter) every 1 m in both directions to carry the upper layer according to the drawing. This includes establishing internal reinforced concrete beams (panel) along the internal perimeter of the sandwich panel walls with (15 cm width X 30cm high above ground floor), in addition to establishing a smooth surface (Helicopter),all according to the attached drawings, and under the instructions of site engineer.	M2	215	
13.6	Supply and install walls and ceiling for cooling room , made of pre-fabricated panels thickness 10cm insulation material: Polyurethane covered with two white galvanized sheet metal minimum 0.45mm thickness, Epoxy- painted (according to standard	M2	810	



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	<p>procedures). Weight: minimum 40Kg/ M3, K: 0.16 w/m2. made by recognized factory in this type of production , price include all needed materials needed to complete the panels installation</p>			
<p>13.7</p>	<p>Supply , install and operate semi-Opened 15 HP cooling units, one unit for each section with cooling range 0-10 °C , each cooling unit includes the following parts:</p> <ol style="list-style-type: none"> 1. Semi-Opened (Copeland 3DS-150 or equivalent), 15 HP capacity with all its fittings and parts 2.Copper Coil Condenser 20 HP Capacity 3. 4 Air condenser 5/8" suction fans 50 cm diameter 4. Internal evaporation unit copper pipe 5/8" length 230 cm (with 4 fans). 5.Internal Fans Type Zlbk German or French or equivalent to 50 cm. 6.Sprayer 3 parts Danfoss or Amersoff. 7.Snold Liquid Type Danfoss 5/8 " 8.Vertical liquid tank 10 inches diameter * 120 cm length 9.Thermal exchange 1.5/8 inches 10.Oil Separator 1.1/8 Danfoss or Ranco type. 11.Oil pressure separator Danfoss or ranco. 12. Flexible connector 1.3/8 inches 13. High low-pressure separator HLP (Ranco or Danfoss type). 14.High pressure separator HP 15.Site glass 5/8 inches 16.Digital thermostat safety control. 17.Heat overload safety system. 18. Cooling gas R407c , full of unit. 19. The outdoor unit to be contained in well galvanized steel construction case on painted steel base with anti- vibration. 20.24 months full warranty for the cooling unit is required. 21.All gas pipes should lay with suitable lengths and covered by separator. 	<p>NO</p>	<p>4</p>	
<p>13.8</p>	<p>Supply, install, test and commission insulated cold store's Door : finished opening Dimensions: H: 2.9m X W: 2.70m , to be of the same thickness and materials used for insulated wall panels but with stainless steel sheet facing of thickness 1 mm, with rigid frame ,and sliding mechanism. Complete with door handles (from both sides) with guiding system, air-tight. AS Per specifications, scope of works and</p>	<p>NO</p>	<p>4</p>	



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	supervision engineer instructions. The price includes all needed works to complete the works to the highest performance level, and emergency bell and light.			
13.9	Supply, install, connect and test 120 CM waterproof lighting fixture (GAASH type or equivalent), (2x18w LED) nepton or equivalent complete with chock, condensers, starters rigid PVC conduits, J.bboxes, fixing screws (Galv.) and wiring.	NO	32	
13.10	Supply, install connect and test waterproof double pole one way switch, 220v, 10A, complete with PVC conduits, J.bboxes, wiring, cover and all necessary accessories to operation. (Type is GEWISS or equivalent).	NO	4	
13.11	1. Supply install and test one electronic control panel to change temperature set point, condensing unit operating mode, silence humming with indicator lamp signals, conduit boxes and wiring. 2. Supply and installation an operating unit for each cooling unit with all its requirements. 3. All control panel parts are contained in water proof galvanized iron box installed outside the cooling room. 4. The control boards include all required electrical components: such as overload contractors, alarming lights, alarming timers, phase filler digital thermostat. Considering that all the outside and inside panels are working on 380 volts (3 phase) 5. The control panel shall be equipped with ADF Automatic (2 Contactor and controller)	NO	4	
Total				
Summary of Bill No. 13 Refrigerator				
Sib-Item				
Refrigerator				
Total				
				Total Cost \$