

Section II: Schedule of Requirements

eSourcing reference: [ITB/2022/43645](#)

A. Summary of Requirements

UNOPS requirements are comprised of the following lots:

- **Lot 1: Wall and Roof Insulation**
- **Lot 2: Monitoring Equipment**
- **Lot 3: Glass and Shutters for windows and doors**
- **Lot 4: Solar thermal and PV equipment**

B. Technical specifications for Goods and Comparative Data Table

Lot 1: Wall and Roof Insulation				
#	Description	Minimum technical requirements	Unit	Qty
1	Roof Insulation	Thermal Insulation (Mineral Wool 5cm)	m2	440
		Protection cement (3cm plus sand)	m2	440
		Cover Tiles	m2	440

Lot 2: Monitoring Equipment					
#	Description	Minimum technical requirements	Measurements	Unit	Qty
2.1	Heat meter	Modbus, Accuracy of Class 2 or 3 MID, sample time 1-2 mins	Supply (T) Return (T) ΔT Flow Thermal power Heating energy Cooling energy	EA	4
2.2	Electric energy meter	Modbus, Accuracy of +/-0.5%, sample time 1-2 mins	Electric power Electric energy	EA	7
2.3	Internal ambient relative humidity and	4-20 mA/Modbus, Accuracy of Class A (according to DIN 43760), sample time 1-2 mins	T RH	EA	6

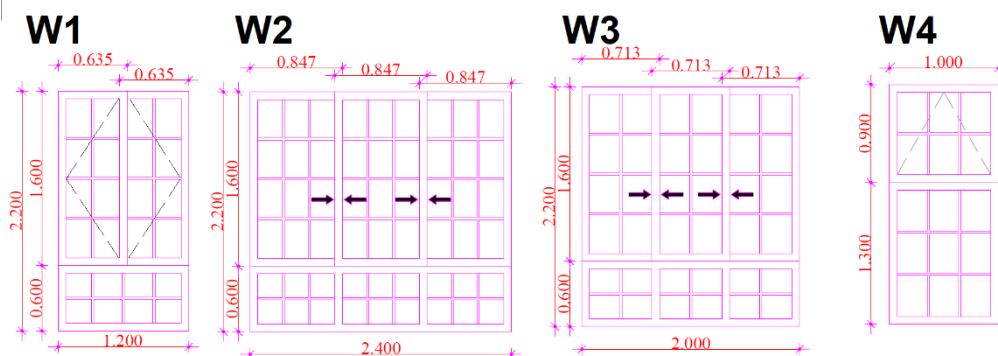
	temperature sensor				
2.4	External ambient relative humidity and temperature sensor	Modbus, T: Class A (according to DIN 43760) UR: +-2% (one pyranometer for total solar radiation and one for diffuse solar radiation) Sample time 1-2 mins	-	EA	1
2.5	Surface temperature sensors	Wireless/Modbus T: Class A (according to DIN 43760) UR: +-2% Accuracy 1 ° C Sample time 1-2 mins	T	EA	36
2.6	Data Logger and transmission devices and a cloud server service	The Data Logger must collect all the devices output signals, mainly in Modbus and few other analogical signals (4-20 mA, 0-10 V).		EA	1

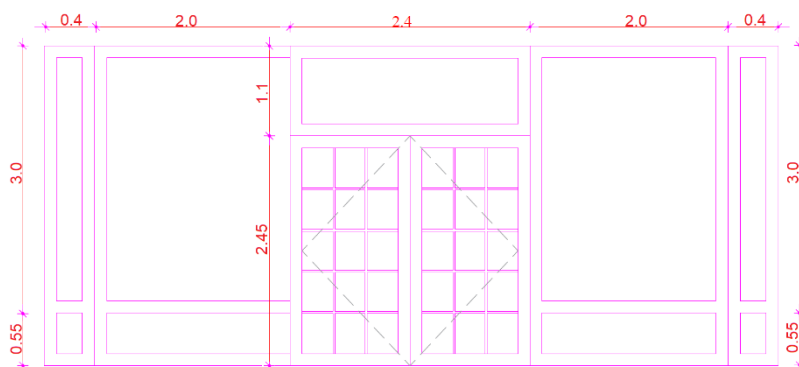
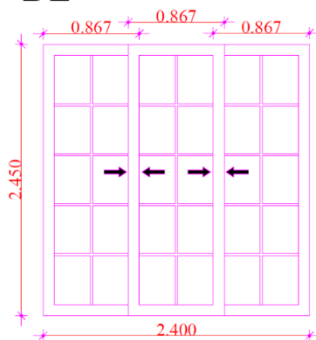
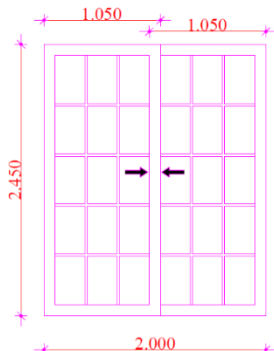
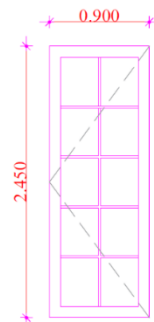
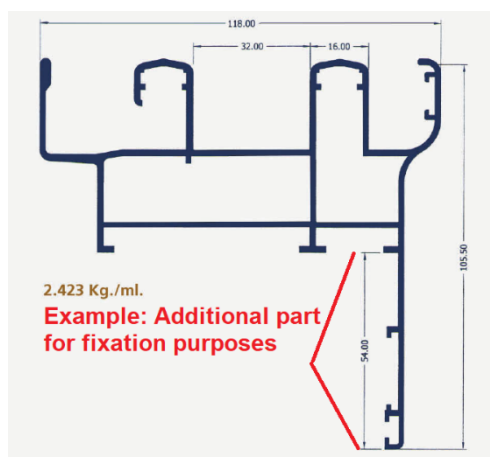
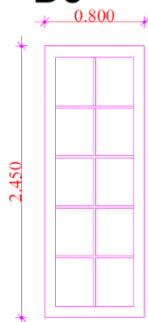
Lot 3: Glass and Shutters				
#	Description	Minimum technical requirements	Measurements	Unit
3.1	Shutters	Reinforced Shutters with motors (103 opening)	m2	326
3.2	External Windows and Doors (Frame, Glass)	Double Glazed Windows and Doors frames with minimum 6mm double clear glass with 10mm of air gap There are 104 external opening in all 4 facades, Specifications for Openings (Windows and Doors) provided below.	m2	352

List of Openings						
Name	Number	Height (cm)	Width (cm)	Shutter	Type	Description

W1	60	220	120	Yes	Two Side-Hung	Top part of the window is Two Side-Hung Inward Window of 160 cm height. Bottom part of the window is a fixed window of 60 cm height. All panels shall be locked/unlocked Each panel is with Aluminium Georgian bars
W2	1	220	240	Yes	Side-Sliding	Top part of the window is a Three Panel Slider Window of 160 cm height on a triple track. Bottom part of the window is a fixed window of 60 cm height. Sides need to be equal All panels shall be locked/unlocked Each panel is with Aluminium Georgian bars
W3	4	220	200	Yes	Side-Sliding	Top part of the window is a Three Panel Slider Window of 160 cm height on a triple track. Bottom part of the window is a fixed window of 60 cm height. Sides need to be equal All panels shall be locked/unlocked Each panel is with Aluminium Georgian bars
W4	6	220	100	Yes	Tilt Top-Hung Outward	Top part of the window is Tilt Top-Hung One Side Outward of 90 cm height Bottom part of the window is a fixed window of 130 cm height. Each panel is with Aluminium Georgian bars
W5	6	220	80	No	Fixed	One side fixed The panel is with Aluminium Georgian bars
D1	1	355	240	No	Side-Hung	Top part of the door is fixed at 110 cm height and 240 cm length (Securite and No Georgian). Bottom part of the door is Two Panel Side-Hung Inward of 245 cm height, and each panel is 120 cm length. Aluminium Georgian bars in the two leaf and Security glass.
	2	355	200	No	Fixed	One side fixed Top part is fixed at 300 cm height and 200 cm length (Securite and No Georgian). Bottom part is fixed at 55 cm height and 200 cm length (Securite glass and No Georgian).
	2	355	40	No	Fixed	One side fixed Top part is fixed at 300 cm height and 40 cm length (Securite and No Georgian). Bottom part is fixed at 55 cm height and 40 cm length (Securite glass and No Georgian).
D2	9	245	240	Yes	Side-Sliding	Three Panel Slider Door on triple track All panels shall be locked/unlocked Each panel is with Aluminium Georgian bars
D3	11	245	200	Yes	Side-Sliding	Two Panel Slider Door on double track All panels shall be locked/unlocked Each panel is with Aluminium Georgian bars
D4	6	245	90	Yes	Side-Hung	One side-hung left turning door inward (when looking outward) The panel is with Aluminium Georgian bars
D5	2	245	80	No	Fixed	One side fixed

						The panel is with Aluminium Georgian bars and Securite
<p>For All Windows and Doors: -</p> <ul style="list-style-type: none"> • Frame thermal transmittance must be $< 2.2 \text{ W/m}^2/\text{K}$. • Solar heat gain coefficient (SHGC) glass must be < 0.4. • Infiltration rate through the windows must be lower than 0.83 l/s/m^2 • Mosquito net is external and applicable for all except D1, W5 and D5 • Glass is fame • Glass colour is Transparent • Glass type is Double Glazing, tempered or laminated • Glass design is Georgian (bars width is 24mm) • Glass thickness is min 6mm (10mm for D1, D5 and D6) • Accessories and Locks qualities are best standard norms • Minimum Aluminum Profile Thickness 1.6 mm • Aluminium frame width is min of 11mm. • Aluminum Color Darkest Brown #100905 (shades close to Black #010100) – Matt • Shutter Color is same as the Aluminum Color • Aluminium Sections: Alumil, Egybel and Valve • Detailed delivery is shown in the drawings below 						



D1

D2

D3

D4

D5


Lot 4: Solar thermal and PV equipment				
#	Description	Minimum technical requirements	Measurements	Unit
4.1	Centralized thermal solar system for domestic hot water	Centralized thermal solar system for domestic hot water 3000 L hot water storage and 50 m2 of flat plate solar thermal panels	L	1
4.2	PV Photovoltaic Solar Panels	High efficiency PV (365 W/panel), total of 27 panel (or equivalent)	EA	27

C. Related services and sustainability requirements

UNOPS Requirements	
Documentation for clearance &	Bidder, if selected, shall provide in original the complete documentation allowing UNOPS' transit agent to process the tax exemption (Commercial invoice, packing list, commercial invoice, certificates, applicable or any other required documents). The selected bidders will be in charge of administrative follow up with customs authorities to clear the goods (the goods will be exempted from customs duties)
Delivery/inland transport to final destination	The Supplier or its Local representative will deliver the goods to the final destination "Sheikh Zayed City, Al Sheikh Zayed, Giza Governorate, Egypt". This price should include the cost of all required means for the inland transportation.
Sustainability	Organization's commitment to sustainability : Description of sustainability (social, economic and environmental) Sustainable use of resources: The bidder to confirm that consideration has been given towards minimising/preventing damage associated with climate change, by a confirmation letter or statement describing actions/policy of bidder with respect to climate change and sustainability. Respect of human rights and labor concerns (for example, fundamental principles and rights at work, health and safety at work, fair trade products, etc.) in your activities.

D. Delivery requirements and Comparative Data Table

UNOPS Requirements	
Delivery time	The selected bidder shall deliver and install the goods in a maximum 5 months after the Contract signature. Letter or statement by bidder confirming ability to deliver items included in bid in the required timeframe.
Delivery place and Incoterms rules	Incoterm : DAP Incoterm 2020 Sheikh Zayed City, Al Sheikh Zayed, Giza Governorate, Egypt
UNOPS Right to vary requirements	At the time the Contract is awarded, UNOPS reserves the right to vary the quantity of the goods and associated services specified above, provided this

does not exceed +/- 20% , without any change in the unit prices or other terms and conditions of the ITB.

Installation (INDICATIVE PURPOSE ONLY)

*Note: this tender pertains to supplying and delivering the above-mentioned items only. UNOPS contract with the selected bidder will not include the installation. Therefore, UNOPS will assume no responsibility for the installation component.

The below section aims to gather information for indicative purposes only which may be used by the client to establish its own contract with the selected bidder for the installation component.

a- Required team for the installation

Profile	Academic qualification	General & specific experience
One Photovoltaic engineer	Solar energy degree or related degree	At least 5 years of general experience and at least one relevant work experience during the last least 5 years; Be able to communicate in oral and written English.
One civil engineer	civil engineering degree or related degree in construction	At least 5 years of general experience and at least one relevant work experience during the last least 5 years; Be able to communicate in oral and written English.
One technician	degree in construction	At least 3 years of general experience and at least one relevant work experience during the last least 3 years; Be able to communicate in oral and written English.

b- Installation approach and timeframe

Please describe below your approach for the installation and the timeframe to complete the work

- Please provide the information (complete name, address, capacity and experience) of your local representative or partner (legal entity) based in Egypt to assist on the following actions: site survey, technical discussions, customs, tax, transportation, installation, commissioning, maintenance, storage