

**Replacement of old fluorescent light fixtures with LED lighting in Tbilisi Mall shopping center**

**Technical requirements**

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9. **General Information**

The shopping center "Tbilisi Mall" is located on the Davit Agmashenebeli Alley N213

The building has 8 floors (4 underground parking levels and 4 retail levels) and consists of three blocks (blocks A, B and C), which are separated from each other by seismic joints.

Presented technical requirements foresees replacing of existing fluorescent light fixtures with LED technology light fixtures.

This requirement applies to: all parking levels, fire escape ways, offices, technical rooms.

1. **Technical Request**

**Implementation of LED Technology in Tbilisi Mall shopping center**

1. Replacing the existing Fluorescent light fixtures in all parking levels with LED light fixtures. The quantity and specification are indicated in attached BOQ Technical spreadsheet (Item (2)). The LED replacement fixtures should be installed in the same light fixtures’ locations, as the existing fluorescent light fixtures are. The wire connection should be done same as existing fixtures connections, with no visible wiring and no additional junction boxes. The wiring coming from the ceiling should be in let into the new light fixture straight and properly sealed with appropriate sealant, to ensure IP 65 standard.
2. Replacing the existing Fluorescent light fixtures in all Evacuation staircases with LED light fixtures. The quantity and specification are indicated in attached BOQ Technical spreadsheet (Item (2)). The LED replacement fixtures should be installed in the same light fixtures’ locations, as the existing fluorescent light fixtures are. The wire connection should be done same as existing fixtures connections, with no visible wiring and no additional junction boxes. The wiring coming from the ceiling should be in let into the new light fixture straight and properly sealed with appropriate sealant, to ensure IP 65 standard.
3. Replacing the existing Fluorescent light fixtures in all Elevator corridors with LED light fixtures. The quantity and specification are indicated in attached BOQ Technical spreadsheet (Item (1)). The LED replacement fixtures should be installed in the same light fixtures’ locations, as the existing fluorescent light fixtures are.
4. Replacing the existing Fluorescent light fixtures in Admin office and -2 Security and Cleaners offices, with LED light fixtures. The quantity and specification are indicated in attached BOQ Technical spreadsheet (Item (1)). The LED replacement fixtures should be installed in the same light fixtures’ locations, as the existing fluorescent light fixtures are.
5. Replacing the existing Fluorescent light fixtures in all Technical rooms (transformer rooms, Electrical rooms, Fire pump room, Valve rooms, etc.), with LED light fixtures. The quantity and specification are indicated in attached BOQ Technical spreadsheet (Item (3)).The LED replacement fixtures should be installed in the same light fixtures’ locations, as the existing fluorescent light fixtures are. The wire connection should be done same as existing fixtures connections, with no visible wiring and no additional junction boxes. The wiring coming from the ceiling must be in let into the new light fixture straight and properly sealed with appropriate sealant, to ensure IP 65 standard.

**Important Notes:**

* All products and installations should meet highest quality, safety and performance standards and comply with the quality and safety requirements in the BOQ and Attachment A.
* Installation plan should be submitted to Technical Manager for approval, prior to installation and all new LED fixtures should be properly installed in the same locations as the old light fixtures, to maintain the esthetic appearances of each area, in accordance with existing layout and with the same or better coverage and light distribution. The Mall Technical manager shall have right to reject any improper installation, that does not comply with above conditions.
* All required tools, materials and equipment, for installation of light fixtures should be provided by contractor.
* Any damages caused by the Contractor during the installation, including but not limited to any damage to the ceiling, shall be rectified by the Contractor at own account (see Attachment A for guideline).
* Warranty responsibilities:
  + The warranty of the new LED light fixtures shall not less than 5 years. See Attachment A for Requirements.
  + After installation, in case of light fixture will burn out, the contractor should replace it within 24 hours of notification, during the warranty period. All required tools, materials and equipment for such works should be provided by contractor. See Attachment A for requirements.
  + The contractor should have in stock minimum local replacement inventory in amount of 2% of each type of light fixtures.
  + Mall Technical Service will, at its discretion, check the illumination of the lamps and compare the data given in the specification. In case the data is reduced by 30%, then the contractor is obliged to replace the indicated lamp.
* During installation, the power for tools will be provided by Mall. All extension cords and sockets are contractor’s responsibility. All electrical equipment will be checked by Mall Electrical Engineer.
* Selected companies should provide the samples of each light fixtures minimum in 3 weeks after tended deadline upon Mall tech department request, for testing and approval.

1. **Works Performance Schedule (Calendar plan)**

The contractor should provide the Works performance schedule, where should be the following points:

* Working zones and timeline (Zones like: 1 parking or B block staircases);
* Materials delivery time to the Mall. Need to fulfill “Internal Requirements”. (Work Notification form to be applied).

1. **Safety**

* All works performing in and around the Mall territory should meet Work Safety Standards. Workers should use all set of PPE (Personal Protective Equipment) such as: safety boots, helmets, goggles, gloves, etc.
* The Mall Safety Manager will conduct the Safety briefing with contractors and only after signing the document, the contractor is able to start the works.

1. **Estimation**

The documentation for bid, shall include all expenses for installation and fully functional and operational LED fixtures, all auxiliary materials and supplies.

Also, the bidding documents should include replacement cost during warranty period (5years).

1. **Technical data**

|  |  |  |  |
| --- | --- | --- | --- |
| N | Description | QTY | Image |
| 1 | Max 25W-LED panel 595X595mm-4000K-220V, White frame, IP20, 120-140Lm/W. Diffuser PS polystyrene or PC polycarbonate Color fast-Anti Yellowing. Antiflicker driver, Power Factor range 0.95-0.99. will be tested by TM | 1134 |  |
| 2 | Max 12w, IP65, 4000K, 1200mm length, 120-140Lm/W, wire portal should be in the middle zone of light fixture from back side. Antiflicker driver, Power Factor range 0.95-0.99. will be tested by TM | 8600 |  |
| 3 | Max 60W, IP65, 4000K, 1200mm length, 120-140Lm/W, wire portal should be in the middle zone of light fixture from back side. Antiflicker driver, Power Factor range 0.95-0.99. will be tested by TM | 297 |  |
| Notes: |  | | |
| 1) The installation cost should be calculated. Installation is only replacing existing light fixtures, with new ones. The installation cost should be provided for each unit and totally, excluding VAT | | |
| 2) The proposal should show the timeframe(Requesting, Fabricating, Delivery, Installation, Acceptance). | | |
| 3) The indicated data of light fixtures are strongly required. Options with different data, will not be acceptable (Just minor changes can be accepted with agreement of Technical Manager) | | |
|  | | |

**Attachment A**

**Additional Tender Requirements**

**Product Requirements**

1. Certifications & Test Reports (Highly preferable)
   1. All certifications must be submitted together with proposal;
   2. All products should be CE certified.
   3. All LED products: LED chips LM80, LM79 test reports.
2. Guarantee issued directly from the Manufacturer will be highly preferable.
   1. A copy of the guarantee must be submitted in the tender.
   2. The guarantee period must be for a minimum of 5 years.

**Contractor and Manufacturer Requirements:**

1. The Manufacturer must have at least 3 years proved experience in LED lighting production.
2. The Contractor shall ensure replacement of the malfunctioning lamps during the warranty period (5 years).
3. Replacement light fixtures shall be the same type and specifications installed within this project.
4. The burnt light should be replaced in a timely manner, maximum 48 hours after the notification.
5. Provision of audited financial statements is a PLUS but otherwise three years revenue assurance is anyway required.

**Installation Requirements:**

1. The Contractor shall submit the time frame for the execution of the project by declaring the installation start date and completion date. Better performance will get higher priority during consideration of the proposal.
2. Protection of facility during installation: The Contractor should prevent any damage to the facility and or its equipment. In the event, that a damage is caused by the Contractor it shall be liable for needed repairs to restore the damage to the same condition as to prior to the damage.
   1. Guidelines for determining damage:
      1. Surfaces: such as ceilings, floors, walls. These surfaces shall be considered damaged, if the damage is visible and can be seen on 3m distance and more.
      2. Mall Equipment: All equipment in Tbilisi MALL including but not limited to electrical panels, wiring, elevators, escalators, HVAC systems and pipes. This equipment shall be considered damaged by the Contractor if the Contractor damaged them while using them or by accident to the extent that they no longer function as intended. The Contractor shall be responsible for repairs to restore the functionality of the equipment to the same level as before the damage.

**Attachment B**

**Payment requirements:**

1. No advance payment is preferable
2. In case of advance payment Bank guarantee should be provided on the amount of payment.
3. Interim payments, in amount of 80% of project cost, can be done in proportional percentage (%) base, after completion and delivery upon acceptance and approval of the Mall representative.
4. Retention guarantee of the project in amount of 5% of full project will be retained within first year of the Warranty.

**Attachment C**

**Proposal form**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| N | Light fixturtes description | QTY | Price (USD) | | | | |
| Materials | | Installation | | Total |
| Unit price | Total | Unit | Total |
| 1 | Max 25W-LED panel 595X595mm-4000K-220V, White frame, IP20, 120-140Lm/W. Diffuser PS polystyrene or PC polycarbonate Color fast-Anti Yellowing. Antiflicker driver, Power Factor range 0.95-0.99. | 1134 |  |  |  |  |  |
| 2 | Max 12w, IP65, 4000K, 1200mm length, 120-140Lm/W, wire portal should be in the middle zone of light fixture from back side. Antiflicker driver, Power Factor range 0.95-0.99. will be tested | 8600 |  |  |  |  |  |
| 3 | Max 60W, IP65, 4000K, 1200mm length, 120-140Lm/W, wire portal should be in the middle zone of light fixture from back side. Antiflicker driver, Power Factor range 0.95-0.99. will be tested | 297 |  |  |  |  |  |
|  |  |  |  |  |  | Grand Total: |  |
|  |  |  |  |  |  |  |  |
|  | Delivery terms: | | | | | | |
|  |  |  |  |  |  |  |  |
|  | Installation terms: | | | | | | |
|  |  |  |  |  |  |  |  |
|  | Warranty terms: |  |  |  |  |  |  |