

**Providing and Fixing of Aluminium window &  
Mosquito Mesh at II floor & III floor of Modernization  
IPD Buildings, JIPMER, Puducherry.**

**Volume- III  
TECHNICAL SPECIFICATION**

**Tender No: HLL/IDD/CHN/19-20/026**

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## **Technical specification:**

### **Common Points:**

Contractor should submit the shop drawing for all the works within 10 days of receipt of work order / LOA to Engineer – in - charge and should get prior approvals before executing any type of works along with coordination layout. The contractor should not deviate from the approved drawing at any point of time, in case of deviation while executing proper authorization should be obtained before proceeding further. Decision of HLL stands final.

The contractor should follow the following procedures:

- 1. MAR** – Material Approval Request (Before procurement of any materials the contractor should submit MAR request along with necessary supporting documents to HLL Engineers and the makes should be as per list of approved makes specified in the tender document. Any materials procured without approval will be rejected at any point of time)
- 2. Sample Tag** – After obtaining MAR, the contractor should submit sample tag along with samples (detailed specification can be submitted instead of samples for materials with high procurement values)
- 3. MIR** – Material Inspection Request – After supplying of materials at site, the contractor should submit MIR request for verification of materials (the materials should be as per approved MAR and sample tag). Items deviating against authorized MIR will be rejected at any point of time.
- 4. IR** – Inspection Request – The contractor should submit Inspection request on day to day basis for inspecting the works carried out.
- 5. Billing** – Billing should be as based on the actuals executed at site and the contractor should submit the bills based on HLL billing format along with supporting documents (Dc copy, bill invoice, MAR, Sample tag, MIR, test reports, etc) for the items claimed in the respective bill. 3 sets of original bill and 2 sets of copy should be submitted.
- 6.** All document formats pertaining to the work should be of HLL formats and the same can be issued on request.
- 7.** 3<sup>rd</sup> party testes through NABL aggregated labs should be carried out for the necessary items executed at site by the contractor as per the direction of HLL without any additional costs.
- 8.** 5 sets of following documents should be submitted during completion/handing over of the project
  1. As built drawings (Hard & Soft copy),
  2. Inventory list,
  3. Warranty certificates
  4. Statutory approvals, if any
  5. Manuals
- 9.** Spares, keys or any other components related to the equipment/ materials installed should be handed over with a list along with separate tags.
- 10.** Hindrance register should be maintained at site.
- 11.** All the debris, remaining should be cleared from the same and disposed within campus lead not more than 4 KM. And the completion certificate will be issued only after clearing the site and making it good.
- 12.** Installation, Testing & Commissioning report for all the works should be provided as per HLL formats.

### **Hot work permit:**

Hot work permit must be obtained prior to the starting of work from concern department of JIPMER.

**Supervision:**

Contractor shall depute their team of engineer for the supervision of installation, testing, commissioning & handing over at site of work. List of Engineers along with their bio data should be submitted to project office before commencement of the works. And the team should maintain records of daily progress and report the same to HLL Engineers on regular basis. Prior permission for the works carried should be obtained from HLL. All the Engineers should be available at the site during execution of work until handing over without fail.

1. Civil Engineer-Degree holder – 1 no. with min 5 years' experience or Diploma Holders – 02 no's with min 8 years' experience.
2. Project Manager – Degree holder 1 no. with min 12 years' experience in same type of work.

**Security & Storage:**

The contractor is responsible for storage & security of all the materials, equipments, piping, wiring and all related accessories till the time of handing over to the customer.

**Power & Water:**

The contractor should make his own arrangement for electricity & water.

**Working Hours & Damages of existing property:**

As the work is being executed in running hospital building, at most care should be taken during execution of works. Damages caused to the existing property should be rectified at own risk and cost with war foot basis. Time Schedule for the works to be carried should be submitted prior to the work. The job specified and scheduled shall be completed and reported on daily basis, waste materials relating to the job should be cleared on daily basis.

**Labour camp:**

Labour camp will not allow inside the campus and the contractor should take sole responsibility for workers stay outside the campus. Workers should not use any type of alcohol/smoking related items inside the campus.

**Co-ordination with Other Agencies**

The contractor shall co-ordinate with all other agencies involved in the building work so that the building work is not hampered due to delay in his work.

**Structural Alterations to Buildings**

- (i) No structural member in the building shall be damaged/altered, without prior approval from the competent authority through the Engineer-in-charge.
- (ii) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these require modifications, or where fresh provisions are required to be made, such contingent works shall be carried out by the contractor at his cost.
- (iii) All such openings in floors provided by the Department shall be closed by the contractor after installing the cables/ conduits/ rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.
- (iv) All chases required in connection with the electrical works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

## **CIVIL WORKS**

### **1. ALUMINIUM WORKS**

- A. The scope of the work is the fabrication, supply and erection at site of all types of Aluminium glazed doors, windows and ventilators in accordance with the drawings and specifications.
- B. The supply and erection will include all parts such as but not restricted to frames, tracks, guides, mullions, styles, rails, couplers, transoms, rails, plates glazing bars, glass, hinges, arrangement, spring catches, cord and pulley arrangements, spring catches, cord and pulley arrangements door closers floor springs etc., required for the whole work whether the parts/ items are individually and specifically referred to in the schedules/ specifications/drawings or not provided that the supply and installation of such parts can be inferred there from and are necessary to make the work complete, unless separate provision is made in the bills of quantities for supply to such parts/items.
- C. The doors, windows, ventilators, will be fabricated to suit the finished clear openings in the building/structure which the tenderer will himself measure.

#### **D. Materials:-**

- i. The members will be made out of aluminum alloy corresponding to IS:733 and will consist of extruded sections and of other shapes, and to sized gauges as shown in the drawings/ described in accordance with the relevant IS codes. The members shall be chosen to provide strength/ stability and maximum resistance to wear and tear.
- ii. The Sections will be as per approved makes, extruded sections. As indicated in the drawings the tenderer should specifically mention which sections he is using.
- iii. The weight of sections and the corresponding catalogue numbers are mentioned. The IS specifications are to be strictly adhered.
- iv. The extruder using recycled materials may be preferred.
- v. The alloy of extruded aluminum should be BS or IS old HE9, Alcon 50 SWP. to this effect test certificate has to be provided for the extruder.
- vi. All necessary arrangements for fixing should be made along with all necessary accessories without any additional cost and the accessories if any should be in line with aluminium material.

#### **E. Finishing:**

- i. The extruded aluminum section has to be mechanically finished to remove all scratches; extrusion marks etc and subsequently thoroughly cleared in all alkali baths prior to anodizing.
- ii. The Polyester powder coating, as required, as per item of work, shall be of desired shade with minimum average thickness to 50

microns or other shades as required and to this effect the tenderer must have to produce test certificate from authorized institutions Bureau of Indian Standard.

- iii. The Polyester powder coated material should be properly wrapped in gummed tape before fabrication to avoid scratches during fabricated and erection shall be kept protected till handing over.
- iv. All necessary civil works related to fixing of aluminium sections should be done without any additional cost.
- v. Necessary sealing arrangement in matching with the original window should be carried out without additional cost.

#### **F. Fabrication:**

- i. Before commencing the fabrication the contractor shall submit to the Engineer – in - charge for their approval detailed shop drawings, based on the Architectural drawings and corresponding specification showing junctions, fittings, accessories such as hinges flush bolts, locks, latches, latching arrangements, peg stays, rotor arms, anodize pivots gaskets rubber packing door felts, mastic, sealant etc., including fixing and sealing arrangements . Type and method of scaffolding he intends to use, Fabrication is to be taken up only after approval by the Engineer – in - charge and in accordance with the approved drawings. Sections for fabrication of door/ window/ventilators etc shall be as per architectural drawings or as approved by the Engineer – in - charge.
- ii. A sample of finished door / windows/ ventilator railing etc. shall be fabricated as per the shop drawings approved by the Engineer – in - charge for final approval before under taking mass production/ fabrication,
- iii. The doors, window, ventilators and partitions shall be as per thickness given in the approved shop drawings, Polyester Powder coating shall be as specified in the item specifications.
- iv. All materials shall conform to relevant IS. Codes and in the absence of IS code, they should correspond to the best engineering practice; decision of the the Engineer – in - charge shall be final and binding on the contractor.
- v. Fabrication shall be done true to the drawing/ sample approved and in correspondence to the finished openings at the site. All joints shall be mitered at the corners, true right angles, and joints to be finished neatly to hairlines, with concealed fasteners, wherever possible joints shall be made in concealed locations.
- vi. All fabricated/finished items shall be packed and carted properly to site to prevent any damage in transit. On receipt at site they shall be carefully stacked in protected storage to avoid distortion/damage.
- vii. Site installation shall be with concealed screws, self-tapping or other approved fasteners or may be by welding, due precautions shall be taken to avoid any distortion/ discoloration /damage to the finished items.
- viii. Wood work faces /parts coming in contact with masonry shall

before shifting to the site be given a heavy coat of alkali resistance bitumen paint. Steel items coming in contact with other incompatible materials shall be given a thick coat of zinc chromate primer.

## 2. Mesh

- 1) Mosquito mesh should be of Stainless Steel 304 Hexagonal Wire Mesh of size 0.35mm with 0.15mm thickness with corrosion resistance grade.
- 2) The bidder should produce manufacture test certificate which includes Mechanical Testing Such as Tensile of Area, Hardness Test along with third party test at NABL accredited labs as per Engineer – in – charge direction.
- 3) All necessary arrangements for fixing of mesh should be made along with all necessary accessories without any additional cost and the accessories if any should be in line with mesh material.

### **List of Approved Makes:**

List of Approved makes		
S.No	Details of Materials/Equipments	Manufactures name
1	Aluminium Fittings and Hardware	Classic/Crown/EBCO/Everite
2	Aluminium sections/ Extrusion	Hindalco/Jindal/Indal
3	Aluminium Fabricator	To be approved by the Engineer-in-Charge
4	Mesh & other materials	To be approved by the Engineer-in-Charge

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