"Panel 1: Design, fabrication, assembly, wiring and supply, erection, testing and commissioning of cubicle type compartmentalised as per Form 4B free standing, dust and vermin proof (Minimum IP 42 ingress protection) front operated switchboards conforming to IS 8623/IEC-60439 suitable for use at 433 volts, 3 phase 4 wire 50 Hz system suitable for a symmetrical fault level of 36 kA at 433 volts, fabricated from 2 mm outer thick CRCA sheets with hinged, gasketted (metal based neoprene) and lockable doors having structural reinforcement with suitable angle/channel/T/flat sections including 3 mm thick gland plates on top and bottom including lifting hooks and earth bus of required size for prospective fault level at that panel with 2 nos. earthing terminals, coating, required and as below. The incoming and outgoing feeders shall be accommodated in a modular arrangement, detachable gland plates, adequate size cable alley, Sign writing, Painting, Earthing, Numbering, Danger plate, including PVC insulated copper FRLS wires of minimum 1.5 sq.mm & 2.5sq.mm for CT's etc. paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with interconnections etc. as per specifications, as complete as required as per specifications and drawing attached. Mechanical interlock between incomers and bus coupler to be provided. Incomer- (a) 2 nos 400A FP 36kA MCCB (Thermal Magnetic release with O/L, S/C & E/F protection) Ics=100%Icu i/c extended rotary handle, spreader link, (b) R,Y,B indication lamp- 2 Set (c) ON, OFF, TRIP indication lamp- 02 Sets, (d) 2A SP 10kA control MCB (e) Digital multifunction meter with suitable ratio CTs of class 1.0 accuracy - 02 sets. Bus-coupler: (a) 01 No. 400 A FP 36kA MCCB (Thermal Magnetic release with O/L, S/C & E/F protection) Ics=100%Icu i/c extended rotary handle, spreader link etc. (b) ON, OFF, TRIP indication lamp- 01 Set (c) 2A SP 10kA control MCB Outgoing: (a) 200 A- 02 Nos, 160 A - 02 Nos, 100 A - 04 Nos and 63 A- 12 Nos (Thermal Magnetic release with O/L, S/C & E/F protection) Ics=100%Icu i/c extended rotary handle, spreader link (b) ON, OFF, TRIP indication lamp- 20 Set (e) All outgoings shall have RYB indication LED lamp with 2A SP MCB control . Busbar : TPN Aluminium alloy bus bars for high conductivity - 400A Rating, Isc=36kA for 1 sec"

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| **Tender Item** | **Material Group / Activity Type** | **Material Name (Technical)** | **Detailed Technical Specifications** | **Unit** | **Quantity** |
| **Aluminum Composite Panel (ACP) Cladding** | ACP Panels [Providing, Fabricating, Testing, Installing, Fixing in position] | Aluminium Composite Panel (ACP), 4mm FR Grade | • **Thickness:** 4 mm (FR-grade Class B1) • **Skin:** Aluminium Alloy SXXX series, 0.5 mm (±0.05 mm) • **Core:** Fire-retardant mineral core • **Finish (Top Face):** PVDF (Kynar 500-based/Lumi Flon-based), metallic colour, EN13501-1 Class B1 s1-d0 • **Back Face:** Polymer-based coating • **Film:** 60-70 microns protective peel-off film • **Weight:** Min. 7.5 kg/sq. • **Standards:** EN13501-1 B1, ASTM-E84 or equivalent | sqm |  |
|  | Supporting Framework [Providing, Fabricating, Installing] | Structural Mounting Brackets (Aluminium Alloy 6005 T5) | • **Material:** Aluminium Alloy 6005 T5 extruded profiles • **Finish:** Hot-dip galvanized with serrations • **Corrosion Resistance:** External grade | kg |  |
|  | Supporting Framework [Providing, Fabricating, Installing] | Structural Mounting Brackets (MS Galvanized) | • **Material:** Mild Steel (MS) • **Coating:** Hot-dip galvanized, zinc ≥85 microns, serrated • **Corrosion Resistance:** High, external grade | kg |  |
|  | Fixing Accessories [Providing, Fixing in position] | Stainless Steel Fasteners (SS316) | • **Material Grade:** SS316 (A4) • **Components:** Hex bolts, nuts, washers, screws, cleats • **Finish:** Passivated, black or matching ACP panel colour | set |  |
|  | Fixing Accessories [Providing, Fixing in position] | Anchor Bolts (SS316) | • **Material:** Grade A4 Stainless Steel (SS316) • **Type:** Heavy-duty mechanical anchors • **Size/Spec:** As per structural requirement | Nos. |  |
|  | Fixing Accessories [Providing, Fixing in position] | Stainless Steel Pins (SS316) | • **Material:** SS316 Stainless Steel • **Application:** Panel fixing pins | Nos. |  |
|  | Fixing Accessories [Providing, Fixing in position] | Nylon Separators (Insulators) | • **Material:** Industrial-grade Nylon • **Function:** Prevent galvanic corrosion between metal components | Nos. |  |
|  | Sealing & Weatherproofing [Providing, Applying] | Weatherproof Silicone Sealant | • **Type:** Neutral cure silicone-based sealant • **Colour:** Black or ACP colour • **Application:** Exterior joint sealing • **Durability:** UV-resistant, flexible, min. 25 years | Cartridge (300ml) |  |
|  | Base Frame / Substructure [Providing, Fabricating, Installing] | Aluminium Substructure (Base Frame) | • **Material:** Aluminium alloy 6063-T6 extruded profiles • **Finish:** Anodized/Powder-coated • **Design:** Allowance for thermal movement, suitable for external conditions | kg |  |

**📌 Additional Notes (Non-Material Items & Scope):**

* **Structural Analysis & Design:**  
  Inclusive of design calculations, shop drawings, and approvals required for structural integrity.
* **Mock-up & Testing:**  
  Includes preparation and testing of mock-up panels, lab and field tests per project specifications.
* **Installation & Labour Scope:**  
  Covers handling, storage, transportation, scaffolding, fixing, cleaning, protection, and final handover.
* **Measurement & Payment:**  
  Payment based on actual installed ACP cladding surface area, including groove widths, measured in sqm to two decimal places.