



# नव मंगलूरु पत्तन प्राधिकरण NEW MANGALORE PORT AUTHORITY

इलेक्ट्रिकल इंजिनियरिंग डिविजन / Electrical Engineering Division

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No. 3/FRPCableTray/EE(E)II/2024

Date:11.06.2024

To

Website

Sir,

**Sub:** NMPA - EE(E)II – Supply & Installation of FRP Ladder type Cable Trays at Oil Jetty Berth No. 9 &10 - Budgetary offer requested – Reg.

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Budgetary offer for “**Supply & Installation of FRP Ladder type Cable Trays at Oil Jetty Berth No. 9 &10**” are invited as per specification attached and in accordance with the Bill of Quantities as detailed below, to be sent by **E-mail on or before 25.06.2024**.

SNo	Item Description	Qty	Rate/Per Card (Rs.)	Total amount (Rs.)
1	Supplying, Laying, Fixing of <b>FRP-WP Ladder type cable Trays</b> with cover over <b>Galvanized channel</b> work also includes supplying and fixing of suitable tray jointing plates, tray bends, SS Bolts & nuts, washers etc. complete. a) 450mm width x 100mm height cable trays b) 300 mm width x 100mm height cable trays	50 Mtrs 350 Mtrs		
2	Removal of existing cables from the damaged trays and re-laying the cables over the new FRP trays with supplying and fixing of suitable size Aluminium cable clamps at an interval of 0.5 mtr, S.S bolts, nuts and washers etc. complete	400 Mtrs		
3	Supplying, Laying, Fixing of <b>FRP-WP perforated cable Trays</b> with cover over <b>Galvanized channel</b> work also includes supplying and fixing of suitable tray jointing plates, tray bends, SS Bolts & nuts, washers etc. complete. a) Size: 50mmx150mm, thick 3mm	360 Mtr		

4	Laying of FRP-WP perforated cable trays with supply & fixing Galvanized MS support channel of size 50x50x6mm, 1 feet height with suitable base plate, (at an interval of 2 metres span), with the required anchor bolts, Tray fixing SS bolts & nuts. Work also includes Aluminium cable clamps at an interval of 1 Mtr tying the Cables etc. Complete.	360 Mtr		
5	Supplying of Direct on line starter FLP-WP IIA & IIB LM-6 IP-66 protection for 10 HP Capstan motors as per Technical specifications	10 Nos		
6	Supplying of FLP-WP IIA & IIB LM-6 IP-66 Foot switch (10 Amps, 230 volts)	10 Nos		
7	Erection of FLP-WP10 HP starter, oil jetty area with required suitable anchor bolts, Foot switch of capstan motor. Work includes termination of cables, fixing & wiring with supplying & fixing required hardware's, lugs, double compression glands etc. Work includes supplying of 4C x 4Sq.mm flexible/multistrand FRLS armoured copper cable for Motor 3c x 1.5Sq.mm FRLS armoured copper cable for Foot Switch.	10 Nos.		
8	Termination of the cable at starter panel including supply and fixing of suitable materials like glands, lugs and gland holes etc. complete. a) 3.5Cx25 Sq.mm/35 Sq.mm	10 Nos		
9	Releasing of existing corroded cable trays, support channels and conveying the released items to the Electrical sub Dvn -IV stack yard	L.S		
	Total (Rs.)			
	GST (%)			

Yours faithfully,

Sd/-

Executive Engineer (E)II  
NMPA Panambur

**Encl:** Technical Specification

## TECHNICAL SPECIFICATION

**Scope of work : Replacement of FLP-WP Starter Panels, Junction Boxes, Foot Switches & FRP Cable Trays of Capstan Motors and allied Electrical works at Oil Jetty Berth No.10**

Technical Specification of FLP-WP LT Capstan Motor Starter Panel

**ITEM: FLAMEPROOF / WEATHER PROOF IP: 66 TONGUE & GROOVE ARRANGEMENTS WITHOUT RUBBER / NEOPRENE GASKETS CAPSTAN MOTOR STARTER PANELS**

<b>Sl. No.</b>	<b>Description</b>	<b>NMPT's Requirement</b>
1	Enclosure	<b>Ex-d as per IS: 2148 Eq IEC 60079-1 Designed with Flange Joints</b>
2	Protection	<b>Weatherproof Ingress protection as per IS: 12063 Eq IEC 60529 conforming and certified to IP: 66 Degree Incorporating TONGUE &amp; GROOVE Arrangements without providing Intermediate Rubber / Neoprene Gaskets</b>
3	Certification	<b>Tested and certified by CMRI Dhanbad/ERTL and Approved by PESO (formerly known as CCOE)</b>
4	Gas Group	<b>Ila and Iib</b>
5	Area Classification	<b>Zone 1 &amp; 2</b>
6	Material of construction	<b>LM-6</b>
7	Finish	<b>D.A Grey Shade 632 as per IS: 5</b>
8	Hardware	<b>Internal: Brass Nickel Plated. External: Stainless Steel 316.</b>
9	Mounting	<b>To be mounted on free standing frame (Frame must be provided along with the Panel)</b>

10	Wiring	<b>Standard PVC Multi stranded Copper Cable suitable for Rated Components</b>
11	Earthing	<b>M6 x 2 Nos. External M6 x 1 Nos. Internal</b>
12	Hinges	<b>Panel must be constructed with built-in Hinged door for ease in maintenance. (No external screwed hinges allowed)</b>
13	SS Inserts	<b>All Screwed holes must be fitted with SS inserts for ease in maintenance in future.</b>
14	Actuations	<b>All actuations must be FAIL-SAFE, FOOL PROOF Mechanism from outside the Flameproof Enclosure</b>
15	Termination	<b>Conform to the terminating distances for Gland to Bus Bar / CST Terminal</b>
		<b>3 ½ Core x 120 Sqmm – 225mm</b>
		<b>3 ½ Core x 70 Sqmm – 160mm</b>
		<b>3 ½ Core x 35 Sqmm – 80mm</b>
		<b>3 ½ Core x 25 Sqmm – 50mm</b>
		<b>3 ½ Core x 16 Sqmm – 40mm</b>
		<b>3 ½ Core x 10 Sqmm – 30mm</b>
16	Warning Inscription	<b>“DO NOT OPEN WHEN ENERGIZED” Plates to be provided on the enclosure.</b>
17	Terminals	<b>The Incoming and the Out going supplies to be terminated to the Rated CST Terminals</b>
18	Indicating Lamps	<b>Clear Cut LED Cluster</b>
19	Toughened Glass	<b>Type'A'</b>
20	Cable Entries	<b>All Cable entries to be provided from Bottom with suitable FLP Cable Glands of SS 316 make</b>

## **Technical Specification of FLP-WP IP: 66 Foot Switch**

### **ITEM: FLAMEPROOF / WEATHER PROOF IP: 66 TONGUE & GROOVE ARRANGEMENTS/ JOINTS WITHOUT RUBBER/ NEOPRENE GASKETS FOOT SWITCH**

<b>Sl. No.</b>	<b>Description</b>	<b>NMPT Requirement</b>
1	Enclosure	<b>Ex-d as per IS: 2148 Eq IEC 60079-1 Designed with Flange Joints</b>
2	Protection	<b>Weatherproof Ingress protection as per IS:12063 Eq IEC 60529 confirming and certified to IP:66 Degree Incorporating TONGUE &amp; GROOVE Arrangements without providing Intermediate Rubber / Neoprene Gaskets</b>
3	Certification	<b>Tested and certified by CMRI Dhanbad Approved by CCOE Nagpur</b>
4	Gas Group	<b>Ila and Iib</b>
5	Area Classification	<b>Zone 1 &amp; 2</b>
6	Material of construction	<b>LM-6</b>
7	Finish	<b>D.AGrey Shade 632 as per IS: 5</b>
8	Hardware	<b>Internal: Brass Nickel Plated. External: Stainless Steel 316.</b>
9	Mounting	<b>Ground.</b>
10	Wiring	<b>Standard PVC Multi stranded Copper Cable with BIS Mark</b>
11	Earthing	<b>M6 x 2 Nos. External M6 x 1 Nos. Internal</b>
12	Hinges	<b>N/A</b>
13	SS Inserts	<b>All Screwed holes must be fitted with SS inserts for ease in maintenance in future.</b>
14	Cable Entries	<b>All Cable entries to be provided from Bottom with suitable FLP Cable Glands of SS 316 make</b>

15	Actuations	<b>All actuations must be metallic and rigid enough to withstand the force of the foot during operating conditions.</b>
16	Terminals	<b>The Incoming and the Out going supplies to be terminated to the Rated CST Terminals</b>

## COMPONENT SPECIFICATION

### INCOMING CHAMBER

Sl. No.	Item Description	Rating	Quantity
1	TERMINALS	2.5 Sqmm	04
2	CABLE ENTRIES	M20	02

### MAIN CHAMBER

Sl. No.	Item Description	Rating	Quantity
1	CONTACT ELEMENT WITH 2 NO OR 2 NC CONTACTS	10A ,500V AC	1 Set