



Ref. No. : PE/PG/BIF/E-5812/2017/CORRIGENDA/02

Date : 18.01.2018

CORRIGENDA / ADDENDUM-02

SUBJECT: 2X660 MW BIFPCL MAITREE KHULNA STPP-BANGLADESH

OPEN TENDER ENQUIRY FOR FRP CABLE TRAYS & ACCESSORIES

Our Ref : ENQUIRY No : PE/PG/BIF/E-5812/2017, Dtd. 27.12.2017

DUE DATE
24-Jan-2018
BY 02:00 PM (IST)

Corrigendum regarding Technical clarification for the subject enquiry is enclosed as per Annexure-I.

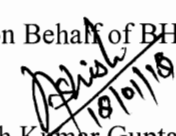
Bidders are requested to submit their offer/revise offer considering points mentioned in Annexure-I against this tender.

The bid submission of tender for FRP CABLE TRAYS & ACCESSORIES invited vide Enquiry No : PE/PG/BIF/E-5812/2017, Dtd. 27.12.2017 is extended up to 24.01.2018 at (02:00 PM).

Bidders are requested to submit their offer on or before this date & time.

Thanking You.

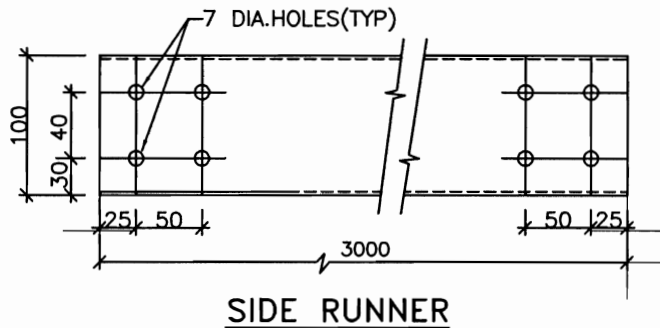
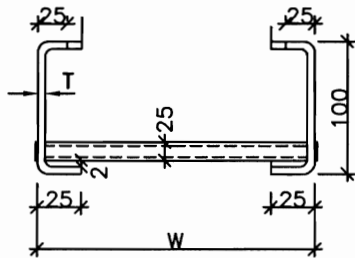
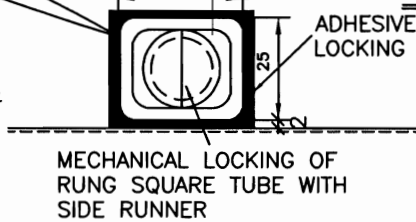
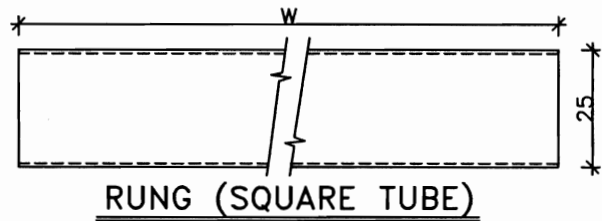
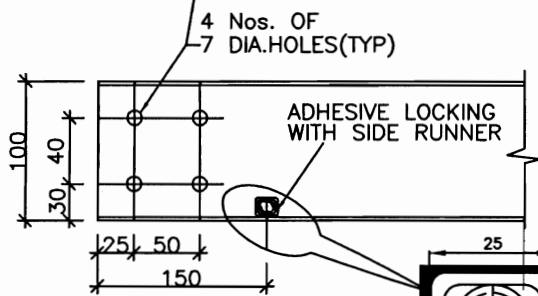
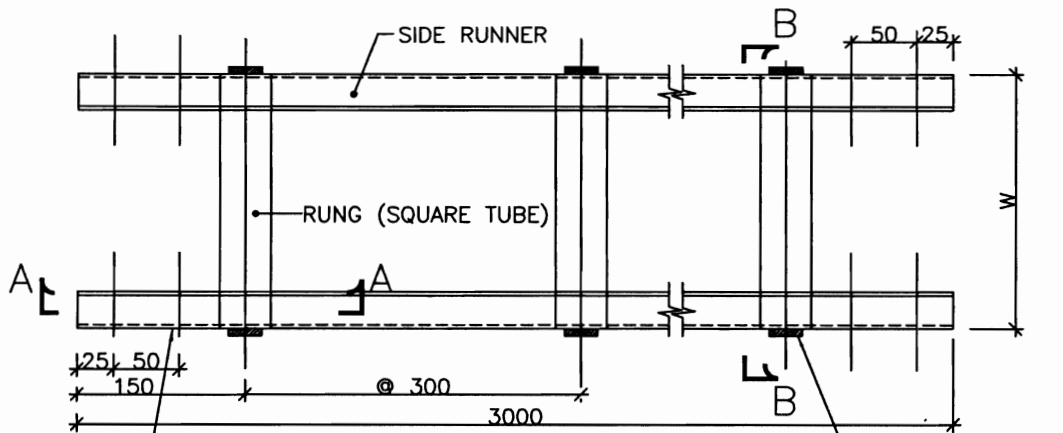
For & on Behalf of BHEL,


Ashish Kumar Gupta
Dy. Manager/PG-I

ANNEXURE-I

2X660MW MAITREE KHULNA BANGLADESH PROJECT				
Corrigendum-1 (18.01.2018)				
FRP Cable Trays & Accessories (Annexure-I)				
S.no	Reference	Description	Updated Description	Remarks
1	Sheet 2 of 15	(Typical details of cable trays and accessories)	(Please refer attached updated sheet 2 of 15)	
2	Sheet 3 of 15	(Typical details of cable trays and accessories)	(Please refer attached updated sheet 3 of 15)	
3	Sheet 4 of 15	(Typical details of cable trays and accessories)	(Please refer attached updated sheet 4 of 15)	
4	Sheet 10 of 15	(Typical details of cable trays and accessories)	(Please refer attached updated sheet 10 of 15)	
5	Sheet 13 of 15	(Typical details of cable trays and accessories)	(Please refer attached updated sheet 15 of 15)	
6	Clause no 6.1 of Data Sheet-A	Type test certificate shall be provided for following		
	a)	Flame Spread (≤ 25 mm) as per ASTM E84	Flame Spread (≤ 25 mm and smoke density index ≤ 450) as per ASTM E-84 Class A	
	c)	Anti-Static, less surface resistivity as per ASTM D257	Anti-Static, less surface resistivity as per ASTM D257 (10^9 ohms per square $<$ Surface resistivity $<$ 10^{12} ohms per square.)	
	d)	UV resistance as per ASTM G154	UV resistance as per ASTM G154 (For 1000 hours minimum, with tensile strength test which shall not reduce by more than 7% after UV exposure)	
	e)	Resistance to heat and fire as per IEC 60695-2-12	Resistance to heat and fire as per IEC 60695-2-12 (at 960 degree temperature)	
7	Clause no 6.3 of Data Sheet-A	Mechanical properties of FRP pultruded sections		
	a)	Ultimate tensile strength: 4000-8000 Kg/ cm ²	Ultimate tensile strength: 30000 PSI	Longitudinal Direction
	b)	Tensile Modules (2.5 - 4.8x100000 Kg/ cm ²)	Tensile Modules: 2.5 X 10 ⁶ PSI	Longitudinal Direction
	c)	Flexural strength at break (2500 – 10000 Kg/ cm ²)	Flexural strength at break: 30000 PSI	Longitudinal Direction
	d)	Flexural Modulus: (3 – 5 x 10000 Kg/ cm ²)	Flexural Modulus (1.6 x 10 ⁶ PSI)	Longitudinal Direction
	e)	Izod Impact: (130 Kg/cm ²)	Izod Impact: 25 Ft-LBS	Longitudinal Direction
	f)	Compressive Strength: (2500-5000 Kg/ cm ²)	Compressive Strength: 30000 PSI	Longitudinal Direction
	g)	Compressive modules (2.5-4.5 Kg/ cm ²)	Compressive modules: 2.5 X 10 ⁶ PSI	Longitudinal Direction
	h)	Bar Col hardness (50-65)	Bar Col hardness: minimum 45	Longitudinal Direction
8	Clause no 6.5 of Data Sheet-A	Water absorption $<$ 0.1-0.25%	Water absorption: 0.6% maximum by weight	

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12/01/2018



W	150	300	450	600
T	4	4	4	4
t	4	4	4	4

FOR GENERAL NOTES REFER SHEET 15 OF 15

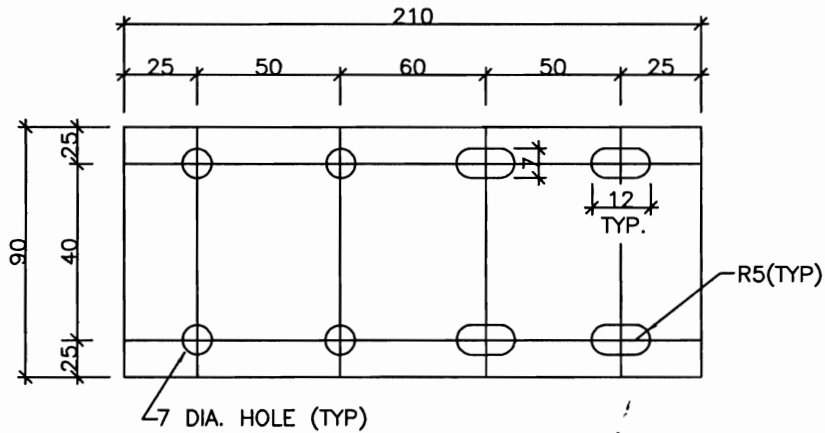


TYPICAL DETAILS OF FRP TYPE CABLE TRAYS AND ACCESSORIES

DWG. NO.
Maitree-00-BTW-EDB
-421507E006-PEM-01

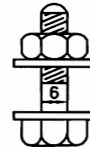
SHT. 2 OF 15

REV. 00



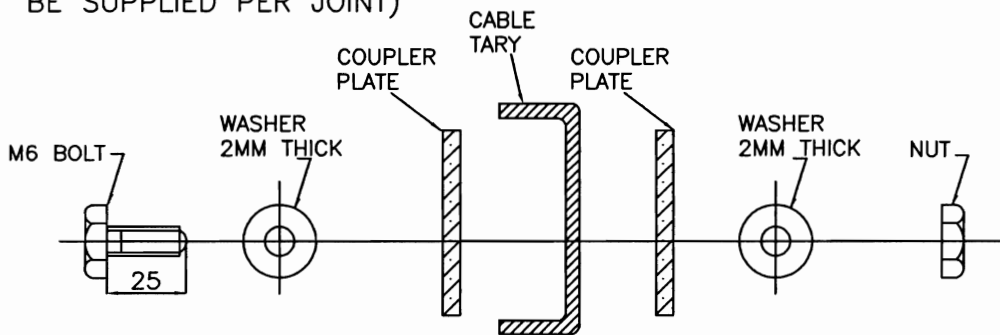
**FRP SIDE COUPLER PLATE FOR
FRP LADDER/PERFORATED TYPE TRAYS
(600/450/300/150W TRAYS)**

QTY. REQUIRED/TRAY SECTION : 4 NOS.



QTY. REQD/TRAY SECTION
6A) 16 NOS. M8 BOLTS
B) 16 NOS. NUTS
C) 32 NOS. WASHERS

(2 NOS. COUPLER PLATES
OF 4 MM THICKNESS TO
BE SUPPLIED PER JOINT)



SEQUENCE OF M6 BOLT, WASHER, NUT, COUPLER PLATE & CABLE TRAY
FOR TYPICAL CABLE TRAY JOINT

FOR GENERAL NOTES REFER SHEET 15 OF 15

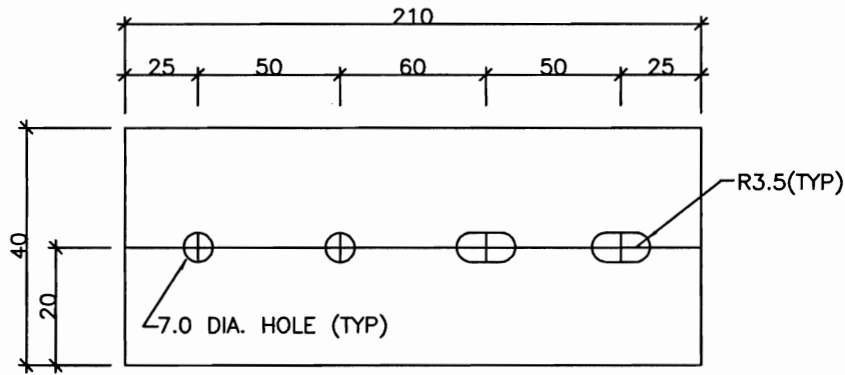
msm



TYPICAL DETAILS OF FRP TYPE CABLE
TRAYS AND ACCESSORIES

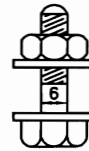
DWG. NO.
Maitree-00-BTW-EDB
-421507E006-PEM-01

SHT. 03 OF 15 REV. 00



**FRP SIDE COUPLER PLATE FOR
FRP PERFORATED TYPE TRAYS
(50/100W TRAYS)**

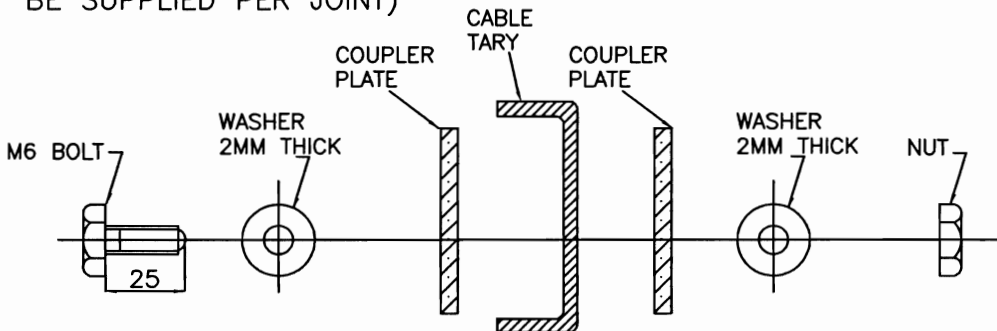
QTY. REQUIRED/TRAY SECTION : 4 NOS.



QTY. REQD/TRAY SECTION

- A) 8 NOS. M6 BOLTS
- B) 8 NOS. NUTS
- C) 16 NOS. WASHERS

(2 NOS. COUPLER PLATES
OF 4 MM THICKNESS TO
BE SUPPLIED PER JOINT)



SEQUENCE OF M6 BOLT, WASHER, NUT, COUPLER PLATE & CABLE TRAY

FOR TYPICAL CABLE TRAY JOINT

FOR GENERAL NOTES REFER SHEET 15 OF 15

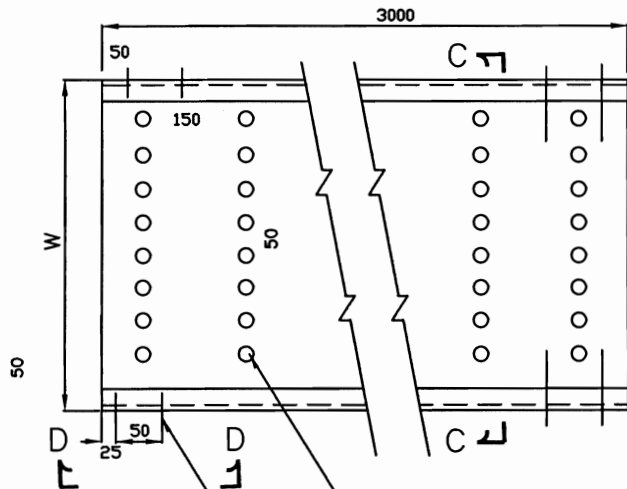
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TYPICAL DETAILS OF FRP TYPE CABLE
TRAYS AND ACCESSORIES

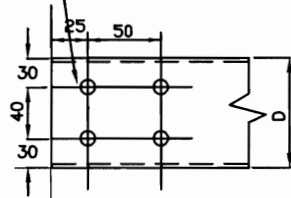
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SHT. 04 OF 15 REV. 00

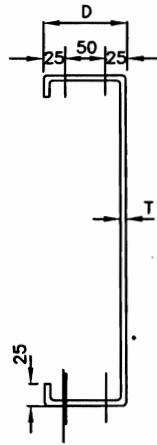


10mm DIA.

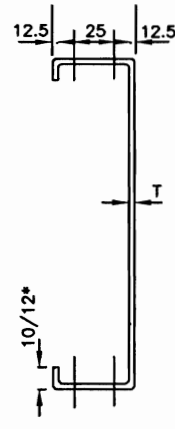
4 HOLES 7mm DIA.



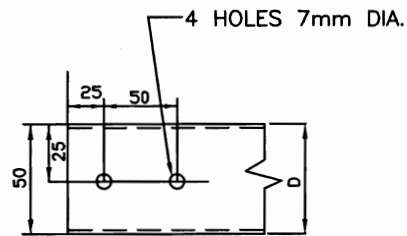
VIEW-DD
(600/450/300/
150W TRAYS)



SECTION-CC
(600/450/300/
150 TRAYS)



SECTION-CC
(100/50 TRAYS)



VIEW-DD
(100W/50W
TRAYS)

TRAY WIDTH W (mm)	600	450	300	150	100	50
TRAY DEPTH D (mm)	100	100	100	100	50	50
T (mm)	4	4	4	4	4	4

*10 MM FOR 50MM WIDE TRAY AND 12 MM FOR 100MM WIDE TRAY

PERFORATED TYPE TRAY

manj

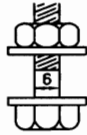
FOR GENERAL NOTES REFER SHEET 15 OF 15



TYPICAL DETAILS OF FRP TYPE CABLE
TRAYS AND ACCESSORIES

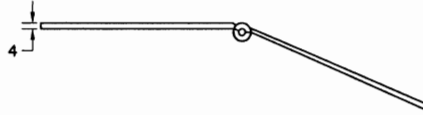
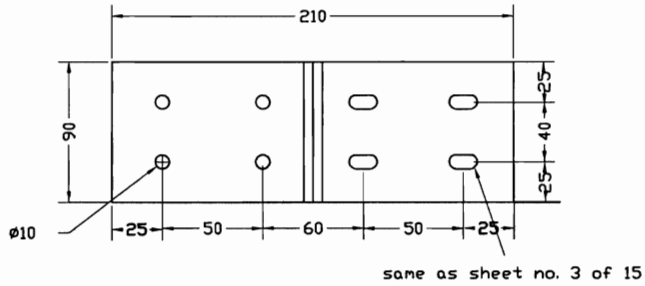
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SHT. 10 OF 15 REV. 00

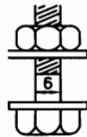


QTY. REQD/TRAY SECTION

- A) 8 NOS. M8 BOLTS
- B) 8 NOS. NUTS
- C) 16 NOS. WASHERS

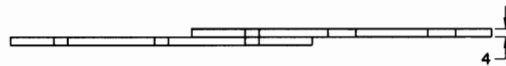
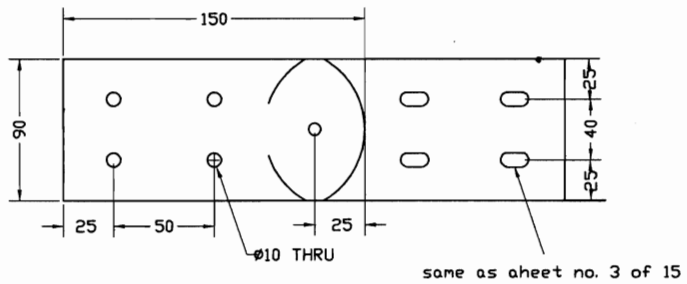


FRP ADJUSTABLE HORIZONTAL
SPLICE PLATE



QTY. REQD/TRAY SECTION

- A) 8 NOS. M8 BOLTS
- B) 8 NOS. NUTS
- C) 16 NOS. WASHERS



FRP ADJUSTABLE VERTICAL
SPLICE PLATE

NOTES:

- ALL DIMENSIONS ARE IN MM.

FOR GENERAL NOTES REFER SHEET 15 OF 15

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TYPICAL DETAILS OF FRP TYPE CABLE
TRAYS AND ACCESSORIES

DWG. NO.

Maitree-00-BTW-EDB
-421507E006-PEM -01

SHT. 13 OF 15

REV. 00