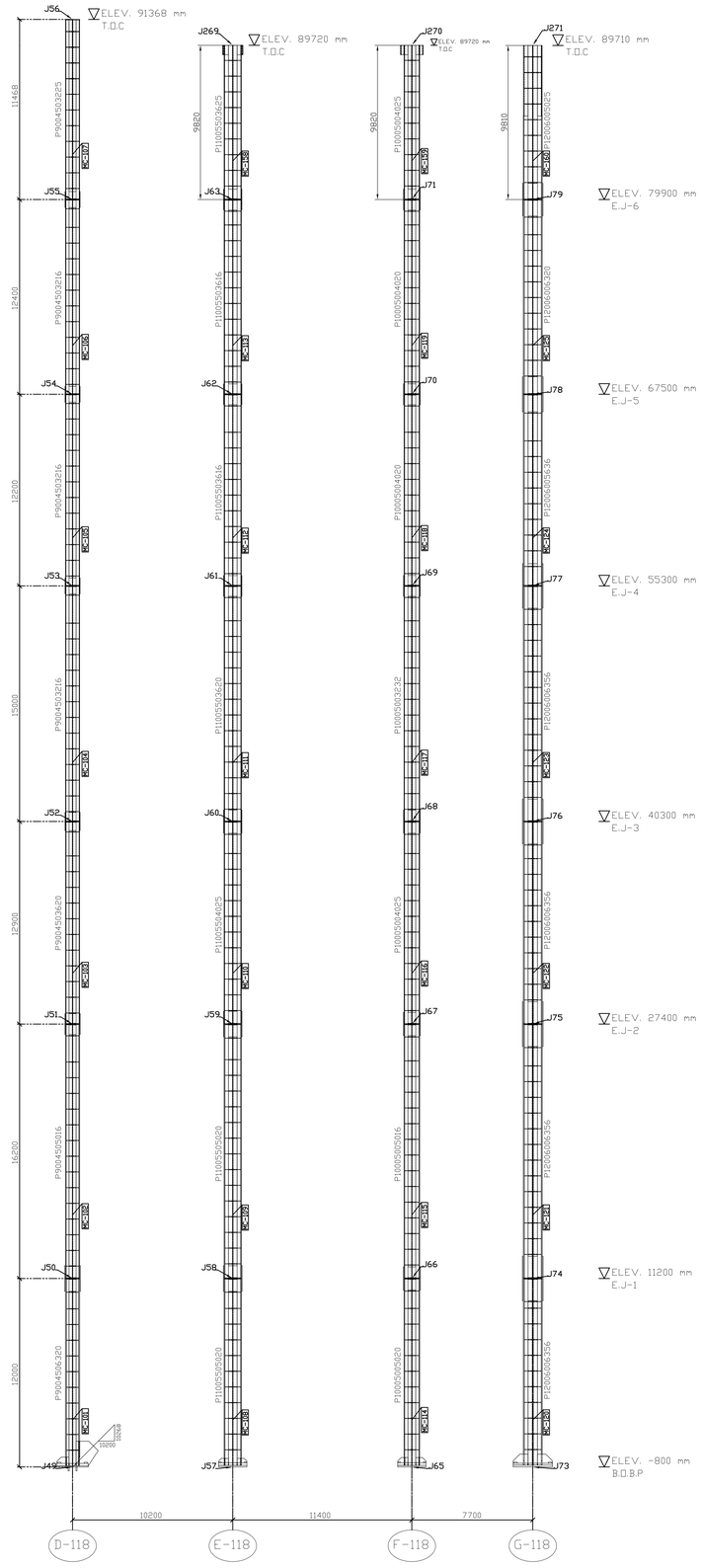
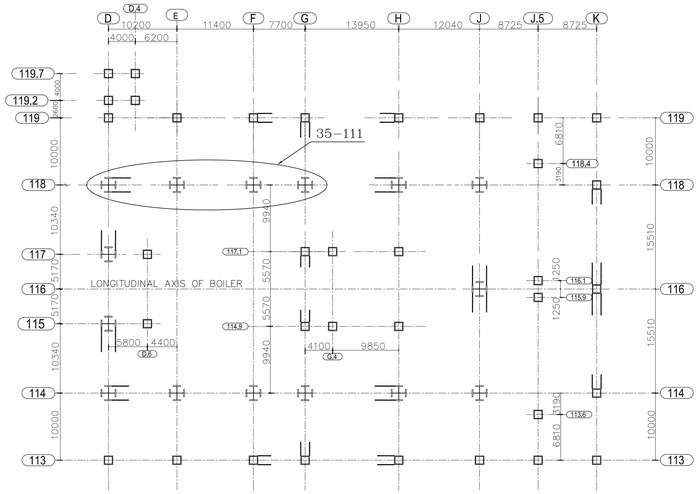
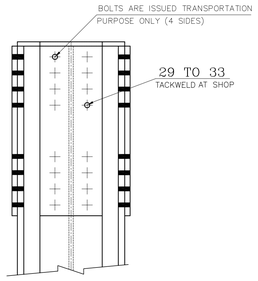
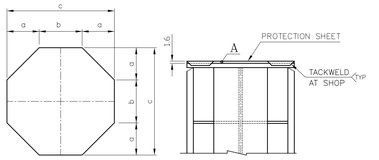
DRAWING NO 0-35-111-09865

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299









END COVERING SHEET DETAIL

COLUMN SIZE	ITEM NO A	a	b	c
WPI-900X450	34	225	450	900
WPI-1000X500	35	250	500	1000
WPI-1100X550	36	275	550	1100
WPI-1200X600	37	300	600	1200

FLOOR LEVELS (T.O.F)

No	ELEVATION	REMARKS
1	5700	
2	9700	MBL-1
3	15300	
4	17800	
5	22900	
6	25900	MBL-2
7	28750	
8	31100 & 31600	
9	35800	
10	38800	MBL-3
11	40000	
12	41700	
13	44600	
14	47700	
15	53800	MBL-4
16	60000	
17	63000	
18	66000	MBL-5
19	71400	
20	72200	
21	74700	
22	75400	
23	78400	MBL-6
24	82000	
25	84800	

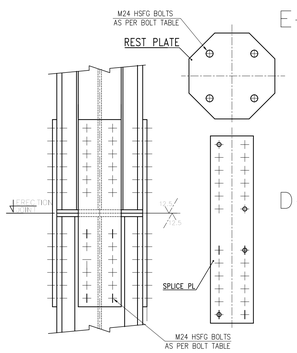
REQUIREMENTS OF HSFG BOLTS & NUTS FOR PLUS I COLUMNS ERECTION JOINT RELEASED IN PGMA 35-700

COLUMN	JT No.	BOTTOM BOLT SIZE	BOTTOM QTY	TOP BOLT SIZE	TOP QTY	RES.PL.FIXING BOLT SIZE	QTY
D-118	J50	HSFG M24x150	80	HSFG M24x140	80	HSFG M24x120	4
D-118	J51	HSFG M24x120	64	HSFG M24x110	64	HSFG M24x110	4
D-118	J52	HSFG M24x100	56	HSFG M24x100	56	HSFG M24x100	4
D-118	J53	HSFG M24x100	48	HSFG M24x100	48	HSFG M24x100	4
D-118	J54	HSFG M24x100	48	HSFG M24x100	48	HSFG M24x100	4
D-118	J55	HSFG M24x100	48	HSFG M24x100	48	HSFG M24x100	4
E-118	J58	HSFG M24x140	80	HSFG M24x140	80	HSFG M24x120	4
E-118	J59	HSFG M24x130	80	HSFG M24x120	80	HSFG M24x120	4
E-118	J60	HSFG M24x110	72	HSFG M24x110	72	HSFG M24x110	4
E-118	J61	HSFG M24x110	64	HSFG M24x110	64	HSFG M24x110	4
E-118	J62	HSFG M24x110	64	HSFG M24x110	64	HSFG M24x110	4
E-118	J63	HSFG M24x110	64	HSFG M24x110	64	HSFG M24x110	4
F-118	J66	HSFG M24x140	72	HSFG M24x140	72	HSFG M24x120	4
F-118	J67	HSFG M24x130	72	HSFG M24x120	72	HSFG M24x120	4
F-118	J68	HSFG M24x110	72	HSFG M24x100	72	HSFG M24x110	4
F-118	J69	HSFG M24x110	64	HSFG M24x120	64	HSFG M24x110	4
F-118	J70	HSFG M24x120	64	HSFG M24x120	64	HSFG M24x120	4
F-118	J71	HSFG M24x120	64	HSFG M24x120	64	HSFG M24x120	4
G-118	J74	HSFG M24x160	144	HSFG M24x160	144	HSFG M24x120	4
G-118	J75	HSFG M24x160	144	HSFG M24x160	144	HSFG M24x120	4
G-118	J76	HSFG M24x160	144	HSFG M24x160	144	HSFG M24x120	4
G-118	J77	HSFG M24x150	144	HSFG M24x150	144	HSFG M24x120	4
G-118	J78	HSFG M24x150	112	HSFG M24x160	112	HSFG M24x120	4
G-118	J79	HSFG M24x150	104	HSFG M24x140	104	HSFG M24x120	4
HRDN WASHER A HSS-24							4032

TOTAL REQUIREMENT OF HSFG BOLTS NUTS & HARDENED WASHERS

RELEASED IN PGMA 35-700

DESCRIPTION	QTY
HSFG BOLT WITH NUT M24 X 100	488
HSFG BOLT WITH NUT M24 X 110	756
HSFG BOLT WITH NUT M24 X 120	588
HSFG BOLT WITH NUT M24 X 130	152
HSFG BOLT WITH NUT M24 X 140	488
HSFG BOLT WITH NUT M24 X 150	584
HSFG BOLT WITH NUT M24 X 160	976
HARDENED WASHER A HSS-24	4032



TYP. ERECTION JOINT - PLUS I COL

LEGEND:-

P - WELDED PLUS I.
E.J. - ERECTION JOINT.
T.O.C. - TOP OF COLUMN.
BOBP. - BOTTOM OF BASE PLATE.
HSFG. - HIGH STRENGTH FRICTION GRIP.

P11005505020-> (eg.)
P - WELDED PLUS-I.
1100 - COLUMN DEPTH.
550 - COLUMN FLANGE WIDTH.
50 - FLANGE THICKNESS.
20 - WEB THICKNESS.

NOTES:-

1. MATERIALS AND OTHER REQUIREMENTS ARE GIVEN PER BOILER ONLY.
2. MANUFACTURING REQUIREMENTS SHALL BE AS PER RELEVANT QCP (LATEST REV.)
3. FOR MANUFACTURING & WELD DETAILS AND PRODUCTION NOTES, REFER FOLLOWING DRGS.
   0-35-110-08605 FOR MANUFACTURING &WELD DETAILS OF PLUS-I COLUMNS
   4-35-110-00347/02 FOR PRODUCTION NOTES
4. ITEM.NO: 34,35,36,37 TO BE PAINTED WITH YELLOW COLOUR PAINT.

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO / VAR NO	MATERIAL CODE / MATERIAL SPECN	AUXIL / DI	UNIT WEIGHT / QUANTITY	CD	ZONE
	37	C.S SHEETS 1.6 1200 X 1200			15011076 / IS531 Gr.D			18.086 / 12		
	36	C.S SHEETS 1.6 1100 X 1100			15011076 / IS531 Gr.D			15.198 / 12		
	35	C.S SHEETS 1.6 1000 X 1000			15011076 / IS531 Gr.D			12.560 / 12		
	34	C.S SHEETS 1.6 900 X 900			15011076 / IS531 Gr.D			10.174 / 12		
	33	NUT HEX GR C M24			4130400024			0.110 / 192		
	32	BOLT HEX.GrC4.6 M24 X 160			4122124160			0.669 / 72		
	31	BOLT HEX.GrC4.6 M24 X 120			4122124120			0.526 / 40		
	30	BOLT HEX.GrC4.6 M24 X 110			4122124110			0.490 / 40		
	29	BOLT HEX.GrC4.6 M24 X 100			4122124100			0.455 / 40		
	28	COL.G-118 MC-160 SEVENTH PIECE		0-35-111-09864				20107.668 / 1		
	27	COL.G-118 MC-125 SIXTH PIECE		0-35-111-09861				23035.812 / 1		
	26	COL.G-118 MC-124 FIFTH PIECE		0-35-111-09860				24665.980 / 1		
	25	COL.G-118 MC-123 FOURTH PIECE		0-35-111-09859				36519.120 / 1		
	24	COL.G-118 MC-122 THIRD PIECE		0-35-111-09858				31950.996 / 1		
	23	COL.G-118 MC-121 SECOND PIECE		0-35-111-09857				39119.404 / 1		
	22	COL.G-118 MC-120 FIRST PIECE		0-35-111-09856				34736.884 / 1		
	21	COL.F-118 MC-159 SEVENTH PIECE		0-35-111-09863				12576.648 / 1		
	20	COL.F-118 MC-119 SIXTH PIECE		0-35-111-09855				13318.516 / 1		
	19	COL.F-118 MC-118 FIFTH PIECE		0-35-111-09854				13074.404 / 1		
	18	COL.F-118 MC-117 FOURTH PIECE		0-35-111-09853				16375.988 / 1		
	17	COL.F-118 MC-116 THIRD PIECE		0-35-111-09852				14764.420 / 1		
	16	COL.F-118 MC-115 SECOND PIECE		0-35-111-09851				18799.120 / 1		
	15	COL.F-118 MC-114 FIRST PIECE		0-35-111-09850				17099.608 / 1		
	14	COL.E-118 MC-158 SEVENTH PIECE		0-35-111-09862				13030.356 / 1		
	13	COL.E-118 MC-113 SIXTH PIECE		0-35-111-09849				13097.284 / 1		
	12	COL.E-118 MC-112 FIFTH PIECE		0-35-111-09848				12850.496 / 1		
	11	COL.E-118 MC-111 FOURTH PIECE		0-35-111-09847				16555.800 / 1		
	10	COL.E-118 MC-110 THIRD PIECE		0-35-111-09846				16541.424 / 1		
	09	COL.E-118 MC-109 SECOND PIECE		0-35-111-09845				22010.120 / 1		
	08	COL.E-118 MC-108 FIRST PIECE		0-35-111-09844				18549.184 / 1		
	07	COL.D-118 MC-107 SEVENTH PIECE		0-35-111-09843				10425.984 / 1		
	06	COL.D-118 MC-106 SIXTH PIECE		0-35-111-09842				9517.880 / 1		
	05	COL.D-118 MC-105 FIFTH PIECE		0-35-111-09841				9385.880 / 1		
	04	COL.D-118 MC-104 FOURTH PIECE		0-35-111-09840				11397.016 / 1		
	03	COL.D-118 MC-103 THIRD PIECE		0-35-111-09839				11439.724 / 1		
	02	COL.D-118 MC-102 SECOND PIECE		0-35-111-09838				16839.720 / 1		
	01	COL.D-118 MC-101 FIRST PIECE		0-35-111-09837				20034.412 / 1		

G-118 F-118 E-118 D-118

REV	DATE	ALTERED : / CHD & APPD :
01		

ZONE

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd
UNIT- HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI - 620014

	NAME	SIGNATURE	DATE
DRN	K.S.PANDIAN		09-11-2009
CHD	T.HARI		10-11-2009
APPD	D.V.N		11-11-2009

DEPT ST CODE 122 | ALL DIMENSIONS ARE IN MM | PROJECTION | SCALE N.T.S | WEIGHT (Kg) | REF TO ASSY / OLD DWG

TITLE COLUMNS ASSEMBLY D-118,E-118,F-118,G-118

DRAWING NO : 0-35-111-09865 REV

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