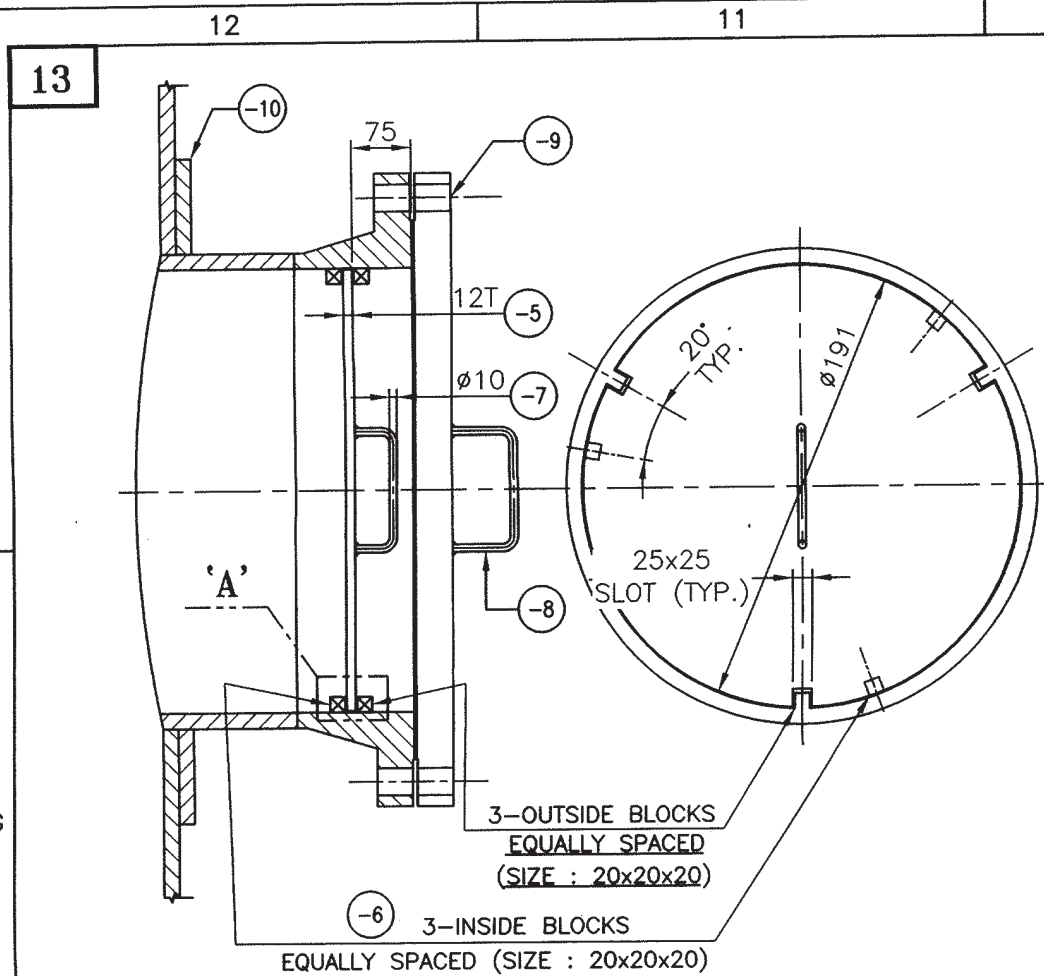
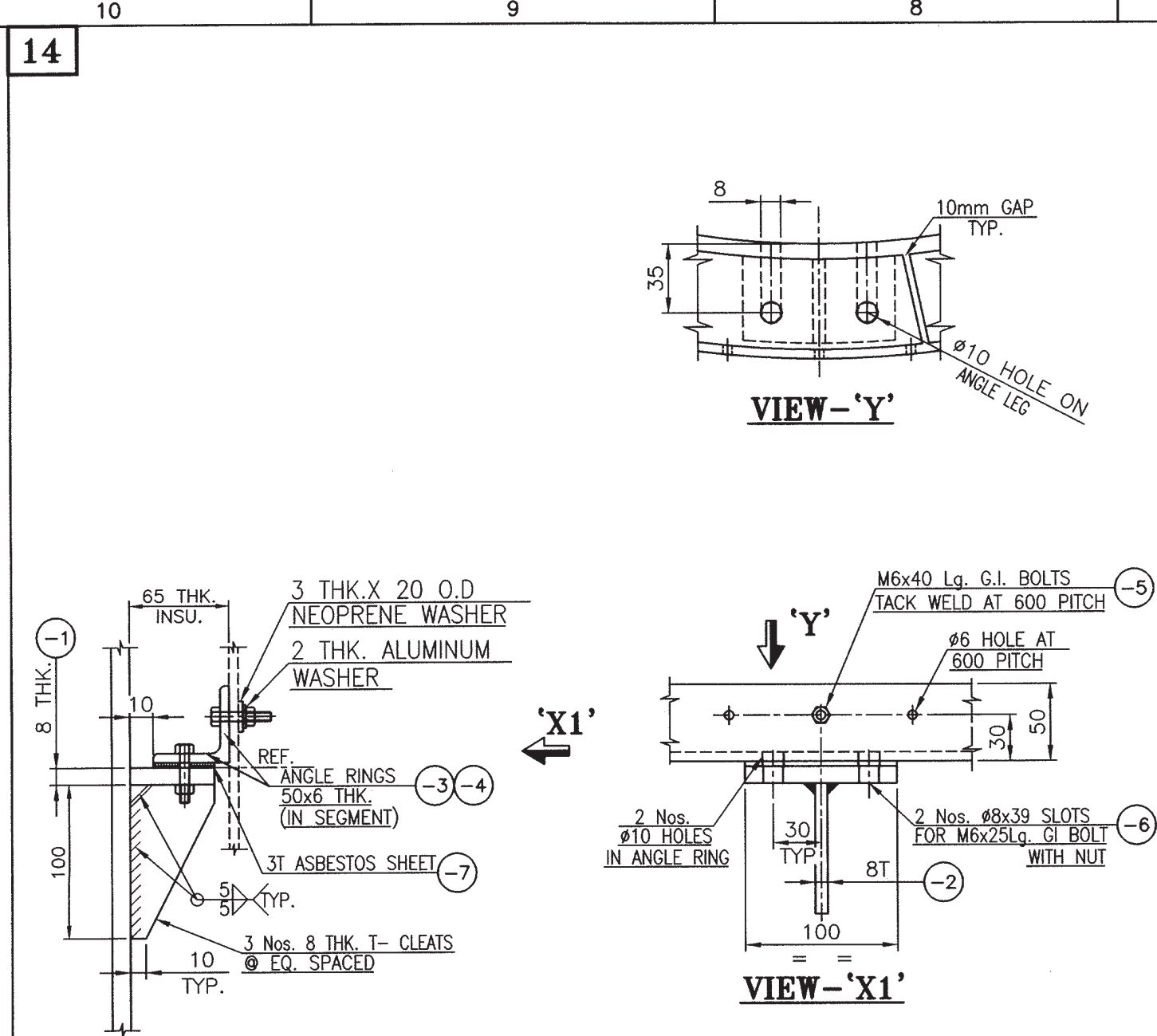
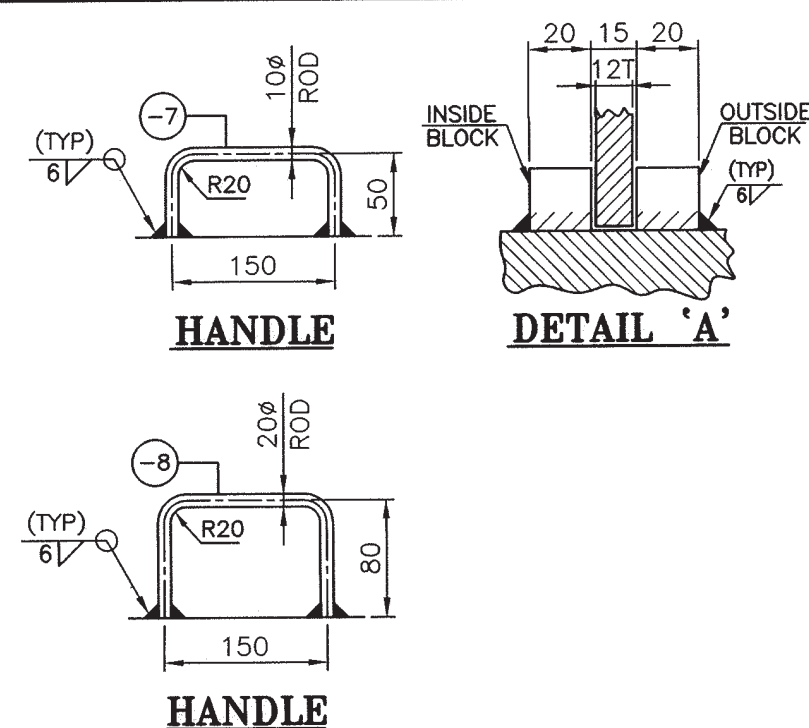


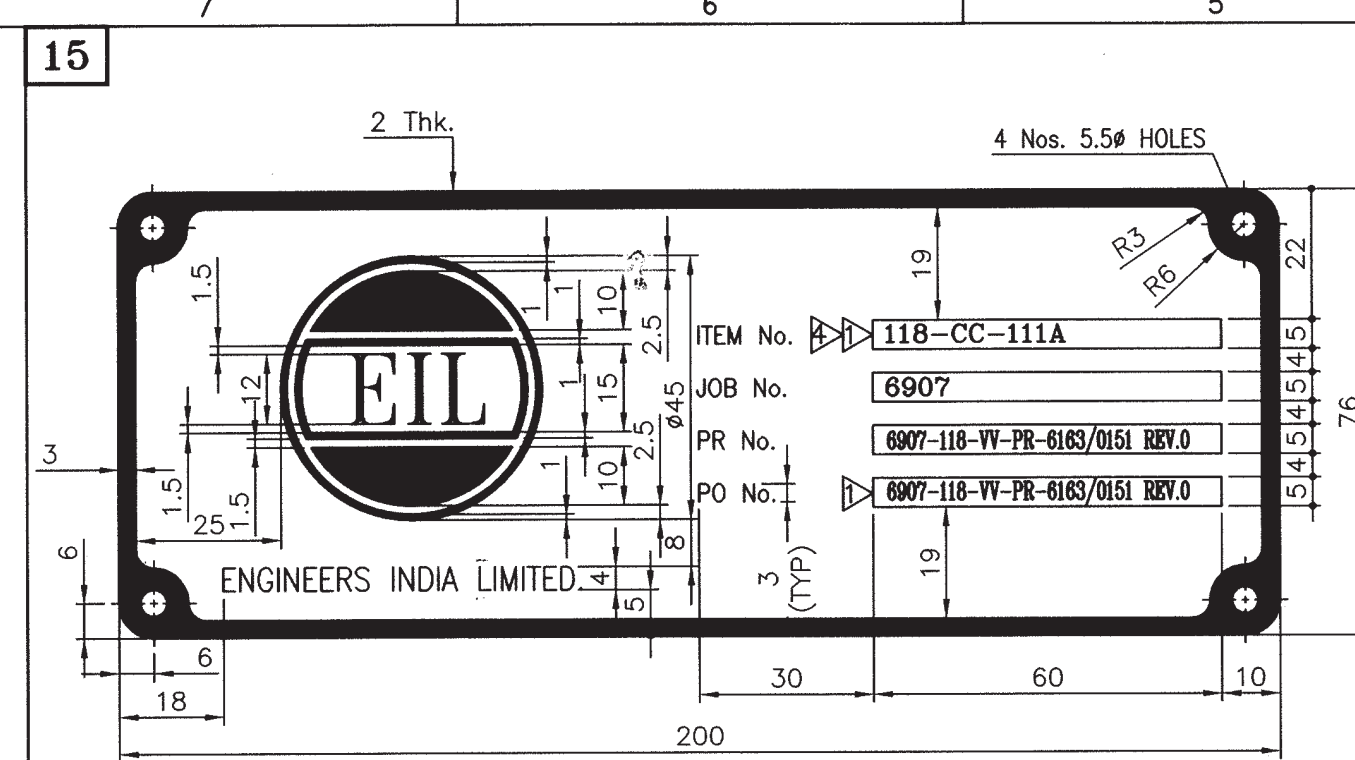
THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF HINDUSTAN DORR-OLIVER LIMITED AND IS NOT TO BE DISCLOSED TO THE PUBLIC OR COMPETITORS NOR TO BE USED EXCEPT FOR EVALUATING PROPOSALS OF HINDUSTAN DORR-OLIVER OR INSTALLING, OPERATING & MAINTAINING HINDUSTAN DORR-OLIVER EQUIPMENT/SYSTEMS UNLESS OTHERWISE AUTHORISED IN WRITING BY HINDUSTAN DORR-OLIVER LIMITED.



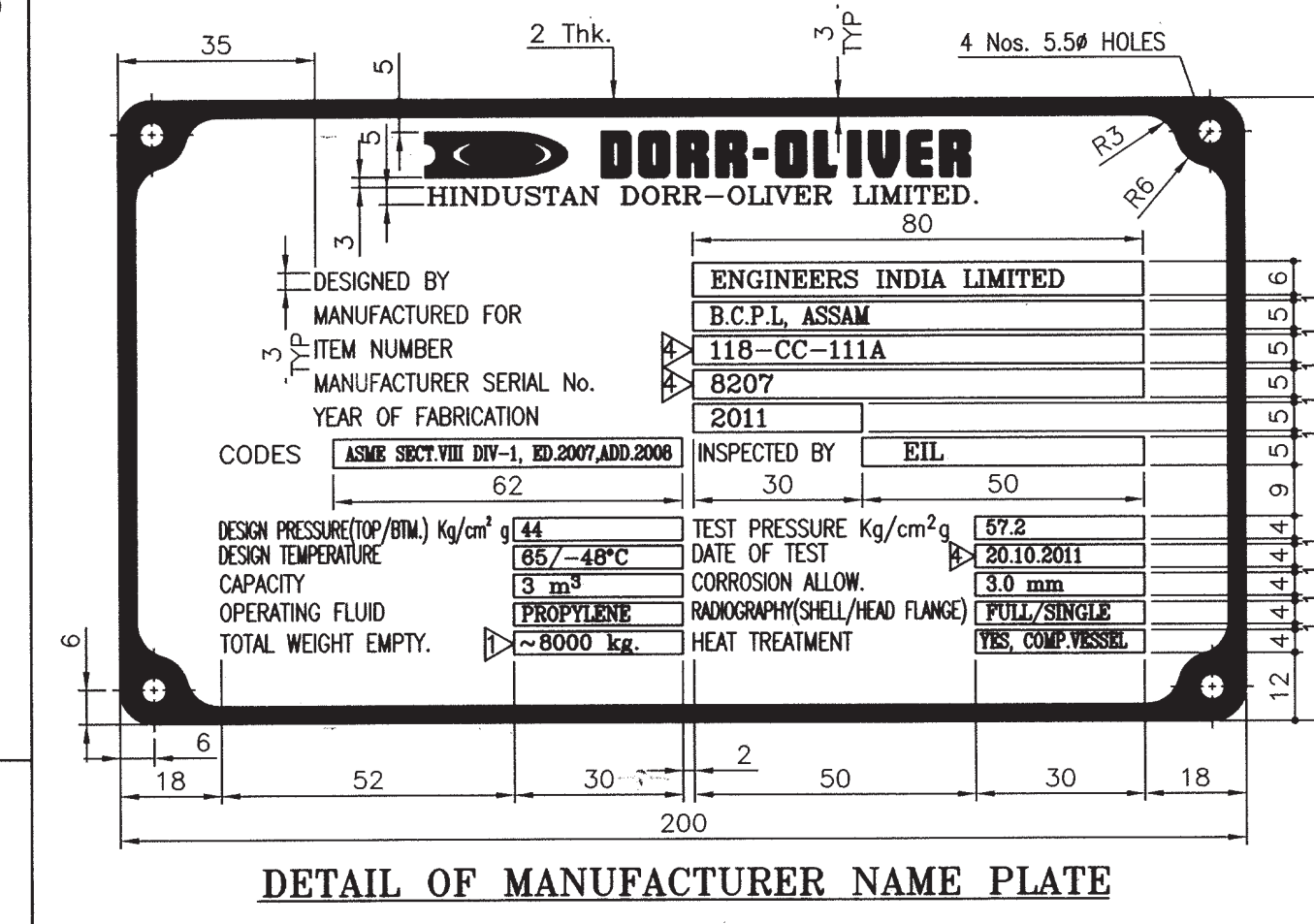
DETAIL OF RETAINING PLATE



DETAIL OF INSULATION CLEAT



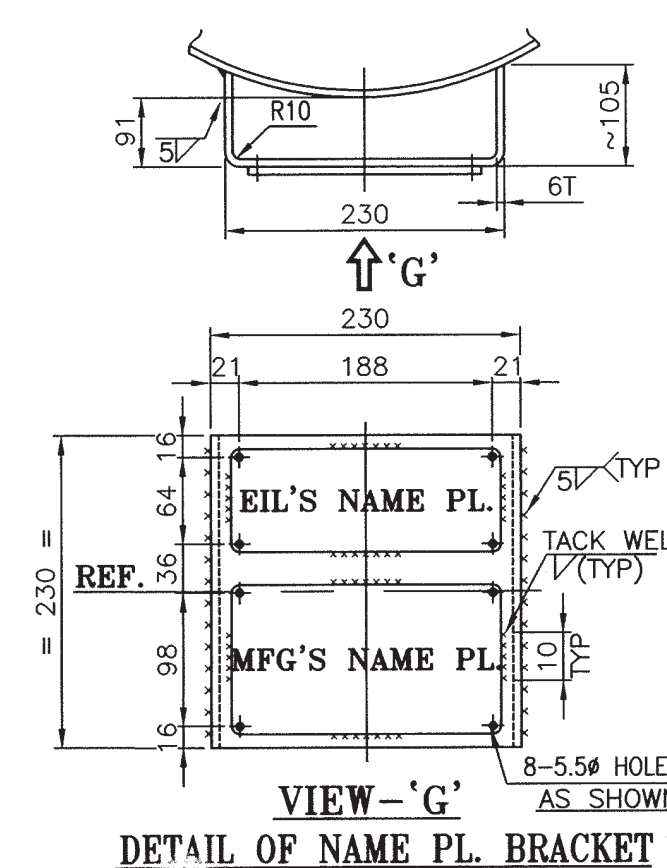
DETAIL OF EIL NAME PLATE



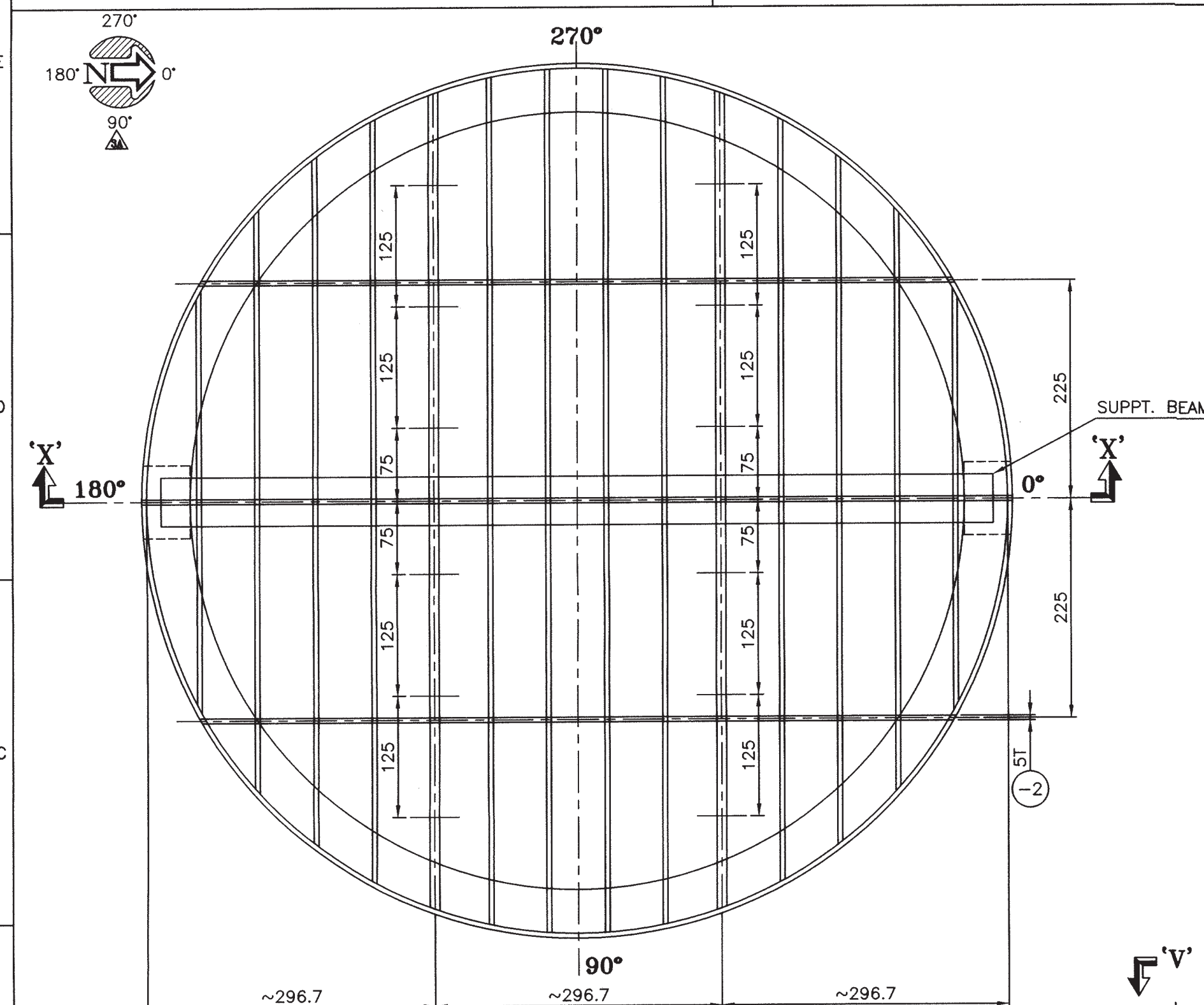
DETAIL OF MANUFACTURER NAME PLATE

NOTE :-

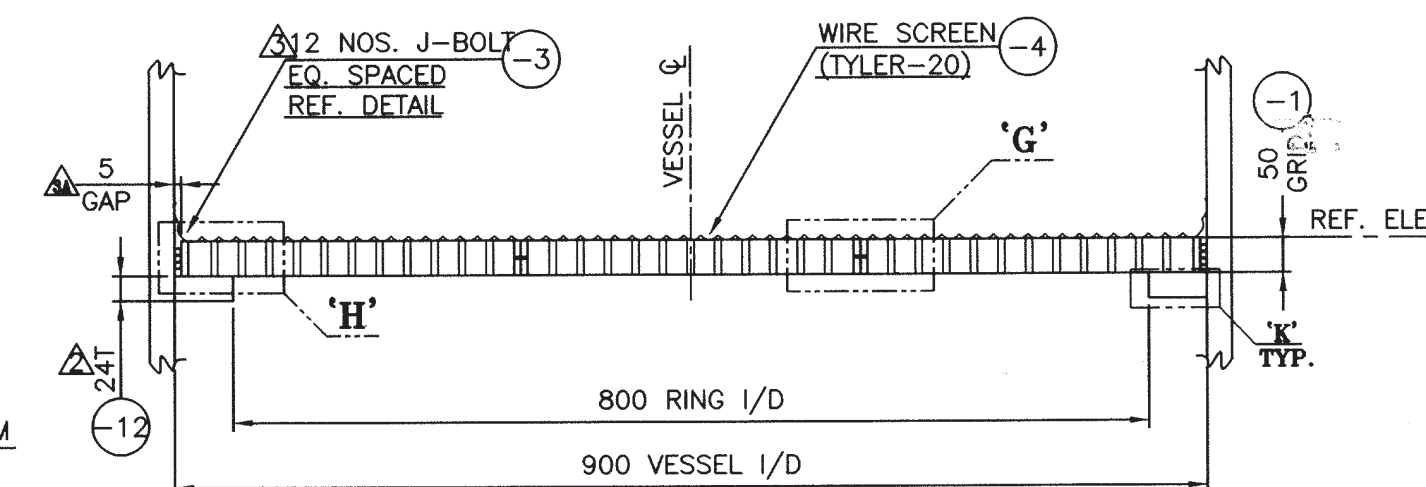
- 1) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
- 2) ALL LETTERS, BLOCKS AND BORDER SHALL BE OF RAISED POLISHED FACE.
- 3) BACK GROUND SHALL BE BLACK.
- 4) NAME PLATE SHALL BE TACK-WELDED TO THE BRACKET. WHERE NOT POSSIBLE IT MAY BE RIVETED.
- 5) VESSEL DATA SHALL BE STAMPED.
- 6) DELETED.



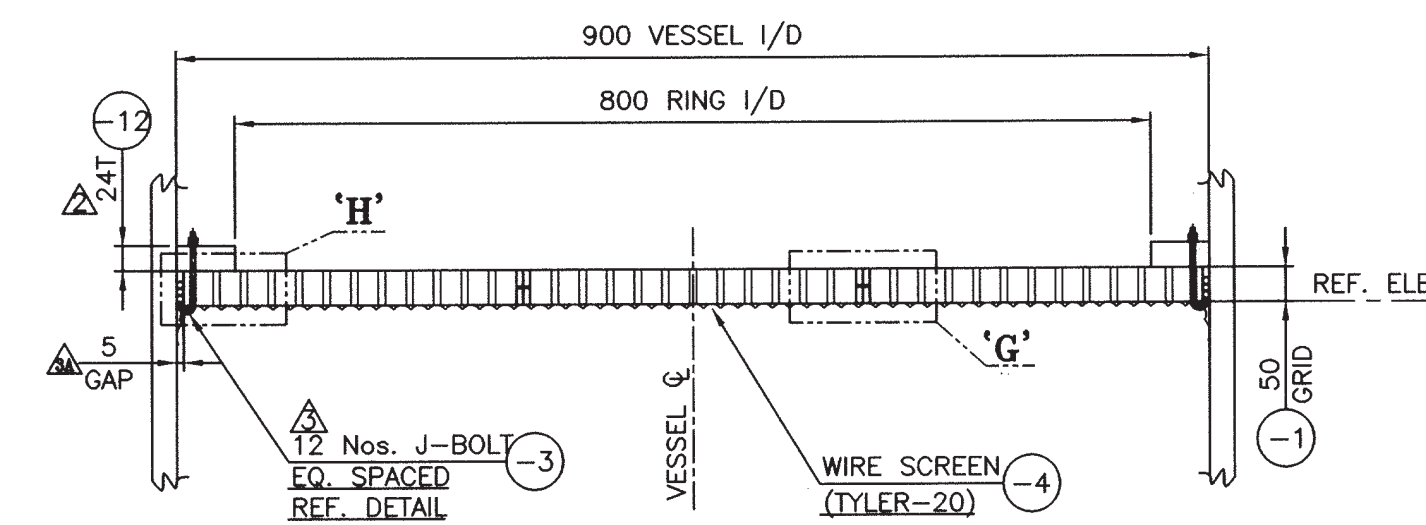
VIEW-'G'
DETAIL OF NAME PL. BRACKET



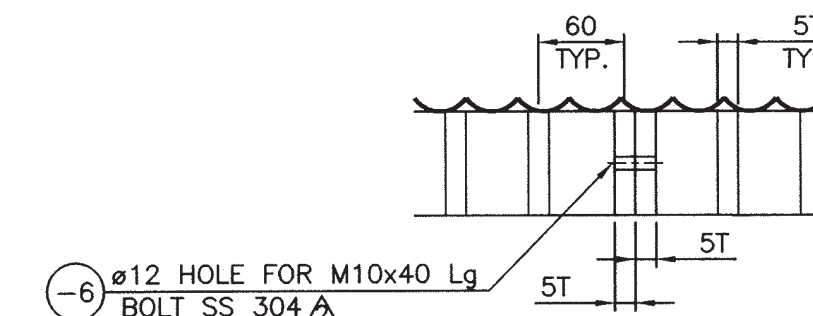
TOP & BOTTOM SUPPORT GRID DETAIL



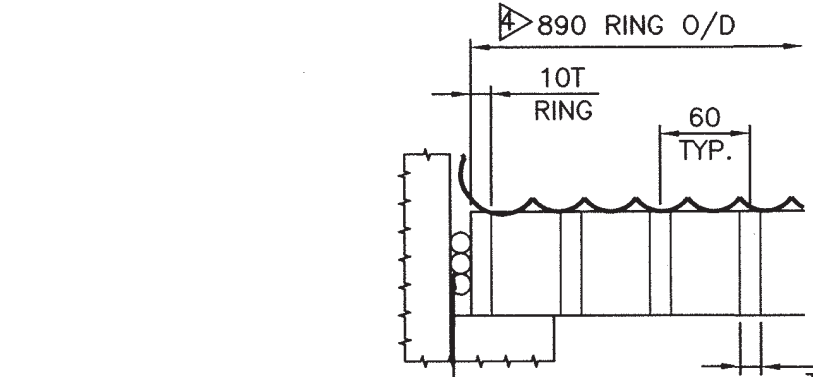
SECTION 'X-X' (BTM. GRID)



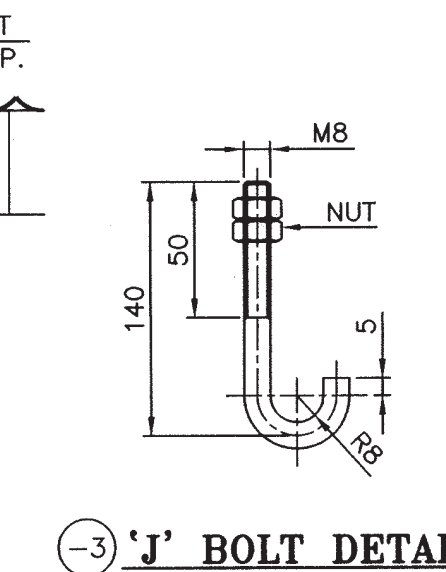
SECTION 'X-X' (TOP GRID)



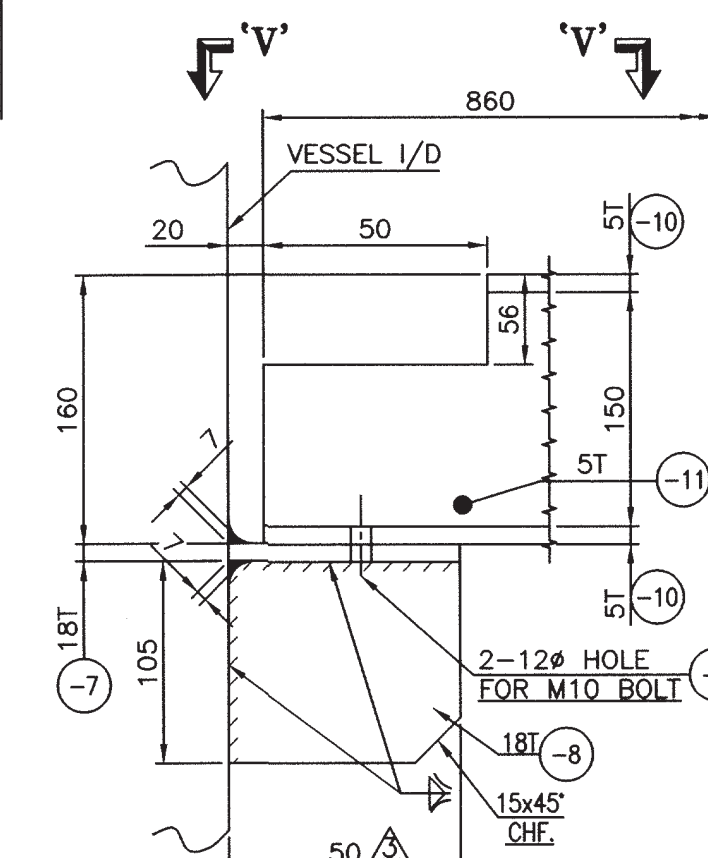
DETAIL-'G'



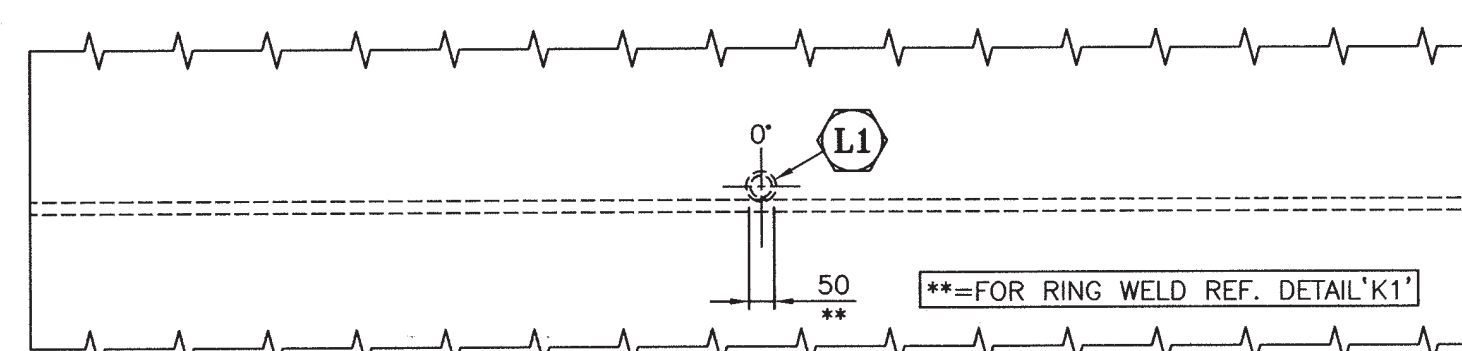
DETAIL-'H'



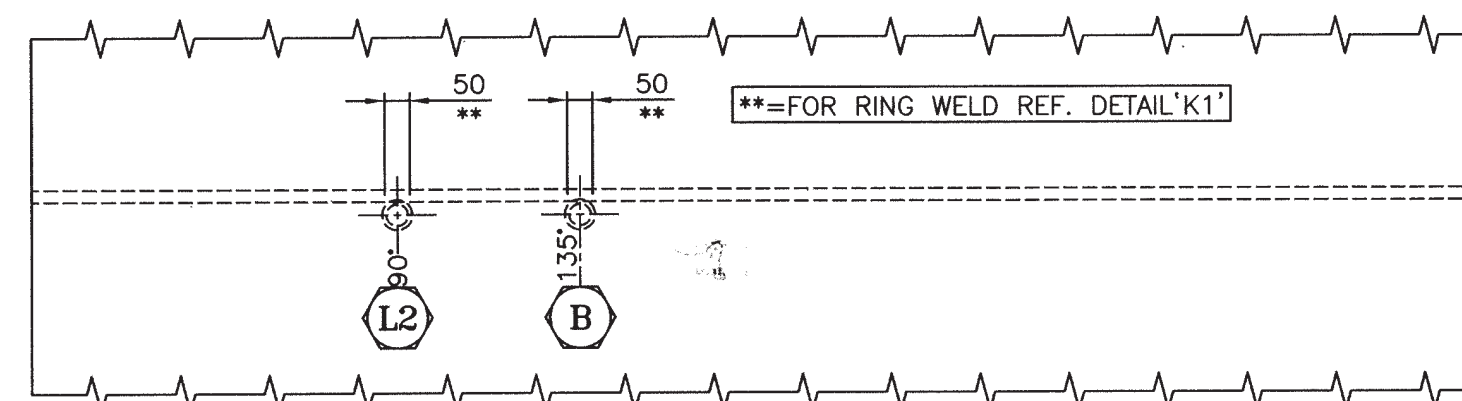
DETAIL-'J' BOLT DETAIL



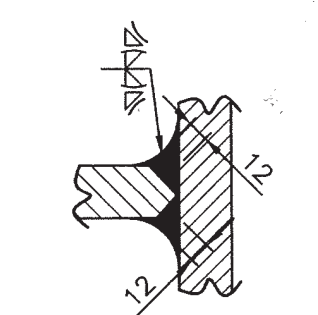
SHELL CLEAT FOR I-BEAM



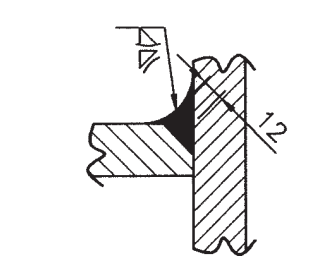
DEVELOPMENT DETAIL FOR TOP RING



DEVELOPMENT DETAIL FOR BTM. RING



DETAIL-'K'



DETAIL-'K1'

DATE	BY	SIGN
29/08/10	SUMIT	A.S. PATEL
31/08/10	V.V.S.	V.V.S.
01/09/10	S.B.	S.B.
SCALE	N.T.S	PROJECTION
MADE FROM	6907-118-16-46-DS-3502	DWG. SIZE
		A1

OTHERS

- 1) WATER USED FOR HYDROTEST SHALL BE CLEAN POTABLE WATER.
- 2) VESSEL SHALL BE THOROUGHLY CLEANED FROM INSIDE TO REMOVE SCALE, DUST, SPATTER BEFORE HYDROTEST.
- 3) VESSEL SHALL BE CLEANED/DRIED AFTER HYDROTEST.
- 4) SUPPORT GRID TO BE DESIGNED TO CARRY:
 - BED=3.52m BED HT. WITH APPX. 3000 Kg. MOLECULAR SIEVE.
 - 0.02 Kg/cm² PRESSURE DROP ACROSS THE BED DURING NORMAL OPERATION (DOWN FLOW).
 - 0.02 Kg/cm² PRESSURE DROP ACROSS THE BED DURING REGENERATION OPERATION (UP FLOW).
 - 2X0.20m BED OF INERT BALLS AT 1500 Kg/m³.
 - WEIGHT OF UPPER HOLD OR GRATINGS.
- 5) 20 MESH SS 304 SCREEN TO BE PROVIDED. HOLES IN SCREEN TO BE SMALL ENOUGH TO WITHHOLD CATALYST PELLETS.
- 6) HOLD DOWN GRATINGS TO HAVE MINIMUM 80% OPEN AREA. GRATING OPENINGS SHALL BE SELECTED SUCH THAT CERAMIC BALLS CAN NOT PASS EITHER DURING NORMAL OPERATION OR REGENERATION. VENDOR TO PROVIDE 20 MESH SS 304 SCREEN BETWEEN CERAMIC BALLS AND GRATINGS.
- 7) OPERATING CONDITIONS:-

OPERATION (PROPYLENE)	INLET TEMP. (°C)	INLET PRESSURE. (kg/cm ² g)
REGENERATION (NITROGEN)	40	38
	200	4
- 8) DESIGN CONDITIONS:-
 - DESIGN PRESSURE= 44 kg/cm²g
 - DESIGN TEMPERATURE= 65/-48°C
 - REGENERATION PRESSURE= 6 kg/cm²g
 - REGENERATION TEMPERATURE= 215°C

EXAMINATION

- Q1) NDE REQUIREMENT
 - a) L/S & C/S OF ALL SHELL/SHELL TO DISH JOINT SHALL BE FULL RADIOGRAPHED.
 - b) ALL PIPE JOINT SHALL BE FULLY RADIOGRAPHED.
- Q2) ALL NOZZLE TO SHELL WELDS (ROOT & FINAL RUN) SHALL BE EXAMINED BY MP/DP EXAMINATION.
- Q3) HARDNESS OF THE MATERIAL, WELD & HAZ SHALL NOT EXCEED 200 BHN. (REF. CL. 4.5 OF SPEC. 6-12-0002)
- Q4) DISHED KNUCKLE AND WELD EDGE SHALL BE PT EXAMINED AFTER FORMING AND HEAT TREATMENT.

BILL OF MATERIAL (FOR ONE ITEM ONLY)

AS BUILT

P.NO.	DESCRIPTION	QTY.	MATERIAL	SIZE	WT.
-12	RING PLATE	02	SA 537 CL.1 #	24T x 700 I/D x 900 O/D	522
-11	MID PLATE	01	SS 304	5T x 150W x 860 Lg.	94.7
-10	TOP & BTM. PLATE FOR BEAM	02	SS 304	5T x 50W x 860 Lg.	5.06
-9	BOLT WITH NUT	04+04	SS 304	M10 x 65 Lg.	3.38
-8	GUSSET PLATE	02	SA 537 CL.1 #	18T x 50W x 105 Lg.	0.5
-7	CLEAT FOR BEAM	02	SA 537 CL.1 #	18T x 50W x 75 Lg.	3
-6	BOLT WITH NUT	24+4	SS 304	M10 x 40 Lg.	-
-5	ROPE	02	GLASS FIBER	#8 x 8.5 MTR.	-
-4	TYLER 20 WIRE SCREEN	04	SS 304	20 MESH SCREEN # 0.406 WIRE x # 2000	1
-3	J-BOLT WITH 2 NUTS	24	SS 304	M8 x AS PER DETAIL	1
-2	SUPPORT BAR	06	SS 304	5T x 50W x 900 Lg.	15
-1	GRID	02	SS 304	AS PER DETAIL (IN THREE SEGMENTS)	150
16	TOP & BOTTOM SUPPORT GRID ASSLY.				
-4	RIVET FOR NAME PLATE	08	ALLUMINIUM	5# x 15 Lg.	-
-3	MANUFACTURER NAME PLATE	01	SS 304	2T x 110W x 200 Lg.	1
-2	EIL NAME PLATE	01	SS 304	2T x 76W x 200 Lg.	1
-1	NAME PLATE BRACKET	01	SA 537 CL.1 #	6T x 230W x 450 DEV Lg.	5
15	NAME PLATE ASSLY.				
-7	ASBESTOS SHEET	12	ASBESTOS	3T x 55W x 100 Lg.	1
-6	G.I. BOLT WITH NUT	30	GI (CS)	M6 x 25 Lg.	0.5
-5	G.I. BOLT WITH NUT	15	GI (CS)	M6 x 40 Lg.	0.5
-4	PLATE2 ANGLE RING	03	IS 2062 Gr.B	6THK. x 55 W x 3356 Dev. Lg.	26
-3	PLATE1 ANGLE RING	03	IS 2062 Gr.B	6THK. x 964 I/D x 1074 O/D	25
-2	RIB PLATE	09	SA 537 CL.1 #	8 THK. X 55W X 100 Lg.	4
-1	TOP PLATE FOR CLEAT	09	SA 537 CL.1 #	8 THK. X 58W X 100 Lg.	4
14	INSULATION RING				
-10	R.F. PAD	01	SA 537 CL.1 #	REQD. 22T (USED 25.4T) x 222 I/D x 455 Dev. Dia.	23
-9	STUD WITH 2 HEX NUT	12+2	SA 537 CL.1 #	7/8" UNC x 160 Lg.	6
-8	HANDLE	01	SA 537 CL.1 #	#20 x 325 Dev. Lg.	1
-7	HANDLE	01	SA 537 CL.1 #	#10 x 270 Dev. Lg.	0.5
-6	STOPPER PLATE	06	SA 537 CL.1 #	20T x 20W x 20Lg.	1
-5	REINFORCING PLATE	01	SA 537 CL.1 #	12T x #191	3
-4	NOZZLE PIPE	1	SA 350 GR. LF3	DN 200 x SCH.80 x 160 Lg.	11
-3	GASKET	1+2	00	DN 200 x 300CL x ASME B16.20	-
-2	BLIND FLANGE	01	SA 350 GR. LF3	DN 200 x 300CL x BLRF	36
-1	FLANGE	01	SA 350 GR. LF3	DN 200 x SCH.80 x 300CL x WNRF	31
13	CONN.HH ASSLY.				

REVISIONS

NO.	DESCRIPTION	BY	CHKD.	APPD.	DATE
1	P.R. NO:- 6907-118-VV-PR-6163/0151 REV.0 DTD: 04/08/2010				
2	P.O. NO:- 6907-118-VV-PO-6163/0071/0151 REV.0 DATED-10/08/2010				
3	MFR'S SERIAL NO:- 8207				
4	EIL JOB NO:- 6907				

CLIENT B.C.P.L, ASSAM **PLANT** POLYPROPYLENE

PROJECT MANAGEMENT **CONSULTANT:** **ENGINEERS INDIA LIMITED**

TITLE :- **MANHOLE & OTHER DETAIL FOR PROPYLENE TREATER (CO) (ITEM No : 118-CC-111A) (QTY:1 No.)**

HINDUSTAN DORR-OLIVER LTD.

ENGINEERING DIVISION

MUMBAI • CHENNAI • AHMEDABAD

DRAWN	DATE	BY	SIGN
CHECKED	31/08/10	V.V.S.	V.V.S.
APPROVED	01/09/10	S.B.	S.B.
SCALE	N.T.S	PROJECTION	
MADE FROM	6907-118-16-46-DS-3502	DWG. SIZE	A1

ORDER NO.	DWG. NO.	REV.
BYC-210976	AV-1-8207/08	2 OF 2