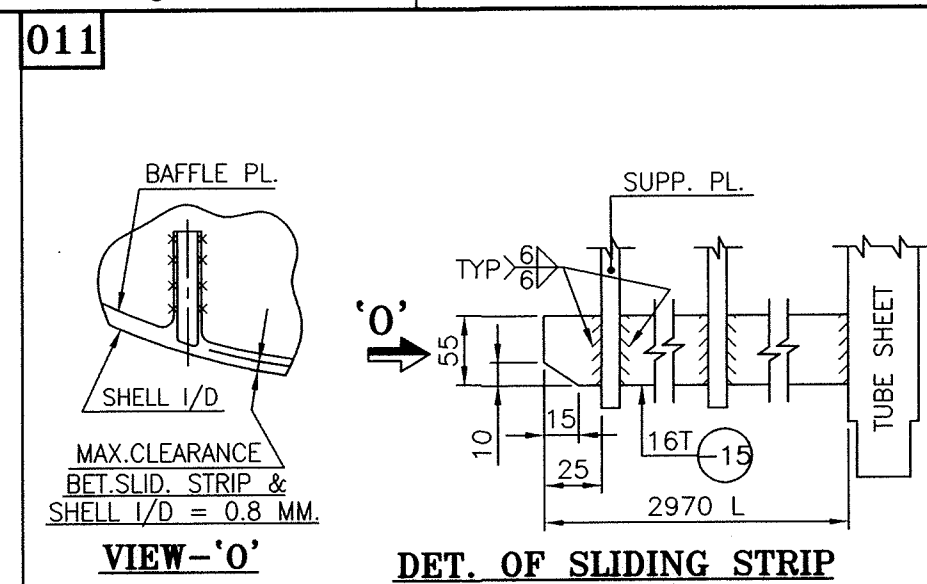




F14) a) POST FORMING HEAT TREATMENT CYCLE FOR SHELL SIDE DISH.
LOADING TEMP. : 300°C(Max.) MIN. HOLDING TIME : 25 MINUTES(Min.)
HEATING RATE : 200°C/Hr(Max) COOLING RATE : COOL IN STILL AIR
DISHING TEMP. : 900~920°C
b) POST FORMING HEAT TREATMENT CYCLE FOR CHANNEL DISH.
LOADING TEMP. : 300°C(Max.) MIN. HOLDING TIME : 25 MINUTES(Min.)
HEATING RATE : 200°C/Hr(Max) COOLING RATE : COOL IN STILL AIR
DISHING TEMP. : 900~920°C
F15) ALL REINFORCEMENT BARS SHALL BE PROVIDED WITH TWO 1/4" NPT TAPPED HOLES AT 180°
APART FOR AIR SOAP SOLUTION TEST AT PRESSURE OF 1.25 Kg/cm² (G)
F16) SLIDING END OF EXCHANGER SHALL BE PAINTED AS 'CAUTION SLIDING END' IN BLACK ON PRIMER COATING IN THE SHOP.
F17) SPARE PARTS SHALL BE DISPATCHED SEPERATELY IN A BOX AND MARKED WITH PO No., ITEM No. & PURCHASER'S NAME ADDRESS.
F18) SLING MARK IDENTIFICATION SHALL BE PROVIDED ON HEAT EXCHANGER WITH RESPECT TO C.G. OF EQUIPMENT.
F19) ALL WELD SHALL BE FULL PENETRATION WELDS UNLESS OTHERWISE SPECIFIED.

EXAMINATION:—

Q1) NDE REQUIREMENT:- a) SHELL SIDE : L/S & C/S OF CHANNEL SHELL & CHANNEL SHELL TO GIRTH FLANGE, DISHED SHALL BE SPOT RADIOGRAPHED. ALL JOINT MUST BE RADIOGRAPHED & MIN. 5% OF TOTAL WELD LENGTH MUST BE RADIOGRAPHED. b) L/S & C/S OF TUBE SIDE ASS'LY. SHALL BE FULL RADIOGRAPHED. c) PIPE TO FLANGE JOINT FOR SHELL SIDE UP TO 250 ON SHALL NOT BE RADIOGRAPHED & ABOVE 250 DN SHALL BE SPOT RADIOGRAPHED. d) PIPE TO FLANGES JOINTS FOR CHANNEL SIDE ASS'LY SHALL BE 100% RADIOGRAPHED.	Q3) FOLLOWING TEST SHALL BE CARRIED OUT ON SPECIMEN (TEST PLATE) AS PER Reg. No. 561(b). a) ONE TENSION TEST FOR ALL WELDED SEAM. b) ONE TENSION TEST FOR ALL WELD METAL. c) TWO IMPACT TEST d) TWO BEND TEST
Q2) D.P. TEST SHALL BE CARRIED OUT ON a) KNUCKLE PORTION OF DISHED END--BOTH INSIDE & OUTSIDE AND WELD EDGES AFTER HEAT TREATMENT. b) ALL NOZZLE TO SHELL WELDS. c) ALL ATTACHMENT FINAL WELD.	

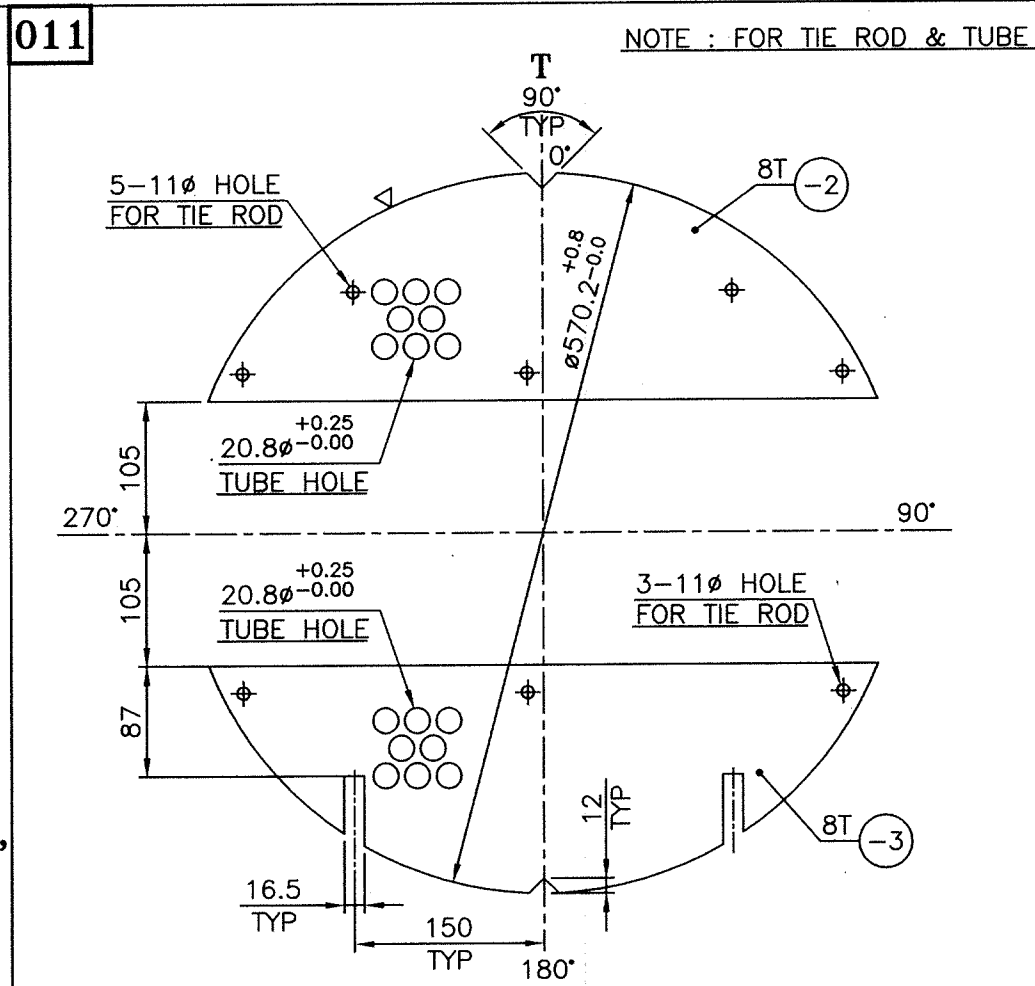
GEN. NOTES FOR TUBE BUNDLE:-

- 1) TUBE TO TUBESHEET JOINT SHALL BE COMPLIED WITH REQUIREMENTS OF 6-15-0003. WHICH SHALL BE ENSURED BY MEASURING THE INSIDE DIA. OF TUBES.
- 2) TUBESHEET FACES SHALL BE FLAT WITHIN ± 0.5 MM (CAMBER)
- 3) TUBE HOLE IN TUBE SHEET SHALL HAVE SMOOTH FINISH TO 63 ARAH.
- 4) AFTER HYDROTEST EQUIP. SHALL BE COMPLETELY DRIED BY SPRAYING HOT AIR ON BOTH SHELL & TUBE SIDING.
- 5) AFTER DRYING, THE EQUIPMENT SHALL BE PURGED AND FILLED WITH DRY N₂ AT 0.25 kg/cm² THE EQUIPMENT SHALL BE PROVIDED WITH PRESSURE GAUGE TO MONITOR NITROGEN PRESSURE AND 1/2" NON RETURN VALVE.
- 6) THREADS ON EXTERNAL BOLTING, PLUGS ETC. SHALL BE LUBRICATED WITH GRAPHITE GREASE.
- 7) TUBE TO TUBE SHEET JOINT SHALL BE SUBJECTED TO AIR SOAP SOLUTION TESTED WITH AIR @ 1.25 kg/cm².

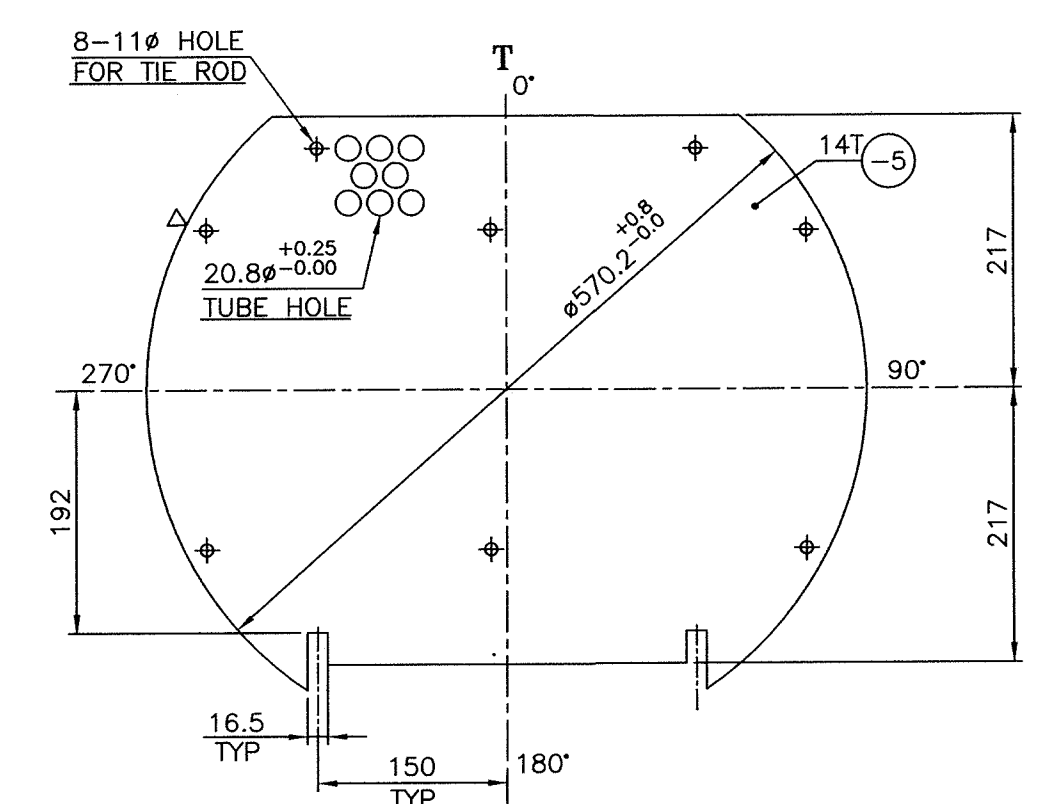
OTHERS

- 1) ALL REQUIREMENTS OF THE PR SHALL BE COMPLIED WITH, UNLESS OTHERWISE AGREED BETWEEN THE EIL AND H2O, WITHOUT ANY COST AND DELIVERY IMPLICATIONS.
- 2) EXCHANGER IS SUBJECTED TO DRY OUT @ 0.75 kg/cm² 20°C.
- 3) CLEAN POTABLE WATER SHALL BE USED FOR HYDROTEST. MINIMUM METAL TEMPERATURE DURING HYDROTEST SHALL BE 20°C. TEST PRESSURE SHALL BE MAINTAIN FOR AT LEAST ONE HOUR AND WATER CONTAIN CHLORIDE MORE OR 25 PPM.
- 4) FINAL HYDROTEST SHALL BE DONE WITH SERVICE GASKET.

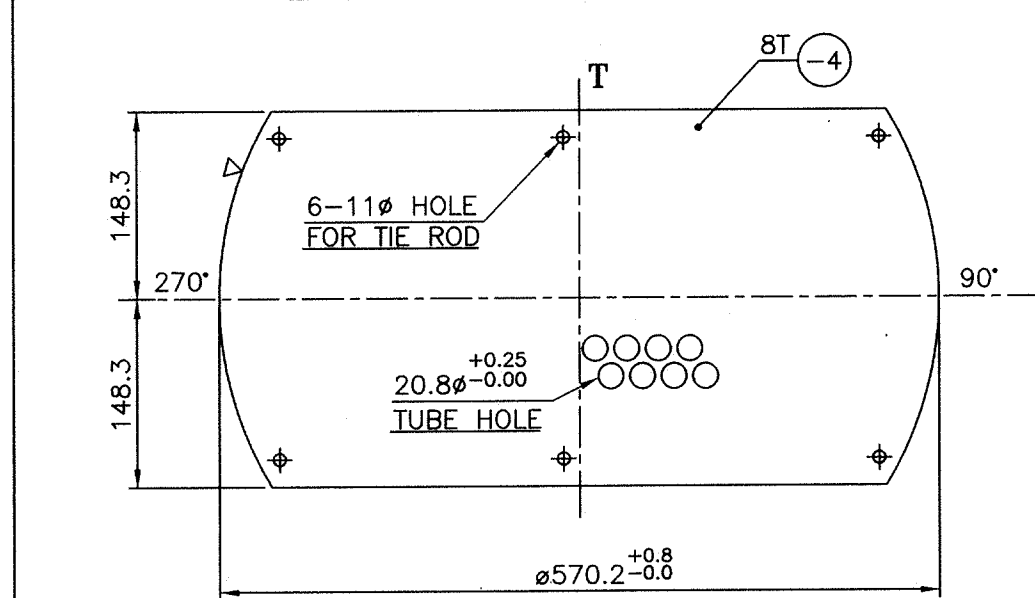
				Total Weight	3100.00
				Sheet 1 of 3 Weight	1770.00
				Sheet 2 of 3 Weight	1330.00
-3	RIVET	4	SS	ø5 x 20 Lg	0.02
-2	NAME PLATE	1	SS 304	21 x 110W x 150 Lg	0.20
-1	NAME PLATE BRACKET	1	SA 516 GR 60	61 x 170W x 310 DEV.Lg	2.00
013	NAME PLATE ASSLY				
-2	GASKET	1	NON ASBESTOS FIBER	3T x 669 O/D x 643 I/D	
-1	TEST FLANGE	1	IS 2062 GR B	1007 x 766 O/D x 672 I/D	83.34
012	TEST FLANGE ASSLY				
-15	SLIDING STRIPS	2	SA 516 GR 60	16T x 55W x 2970 Lg	41.82
-14	IMPINGMENT PLATE	1	SA 516 GR 60	8T x 284W x 310 Ln	5.00
-13	PLUG	2	SA 105	ø22 x 45 Lg	0.30
-12	PULLING EYE BOLT	2	SA 105	M20 x AS PER DRG.	1.58
-11	DOWEL PIN GUIDE PLATE	4	SA 516 GR 60	16T x 36W x 47 Lg	0.87
-10	JACK SCREW STOPPER PL.	6	SA 516 GR 60	16T x 36W x 47 Lg	1.30
- SA-10 -9	SPACER	REF. TABLE	IS 1239	17.5 O/D x 2.35T x REF.TABLE	870.00
-8	HEX. NUT	16	IS 1367 GR 4	M10 (STD)	0.21
-7	TIE ROD	8	IS 2062 GR A	ø10 x 3000 Lg	14.80
- SA-10 -6H	TUBES	REF. TABLE	SA 179	20 O/D x 2.1T (MIN.) x REF.TABLE(SEAMLESS)	21.79
-5	SUPPORT PLATE	1	IS 2062 GR B	14T x AS PER DRG.	28.06
-4	BAFFLE PLATE	4	IS 2062 GR B	8T x AS PER DRG.	17.15
-3	BAFFLE PLATE	3	IS 2062 GR B	8T x AS PER DRG.	12.26
-2	BAFFLE PLATE	3	IS 2062 GR B	8T x AS PER DRG.	12.26
-1	ST. TUBE SHEET	1	SA 266 GR 4	AS PER DRG	289.00
011	TUBE BUNDLE ASSLY				



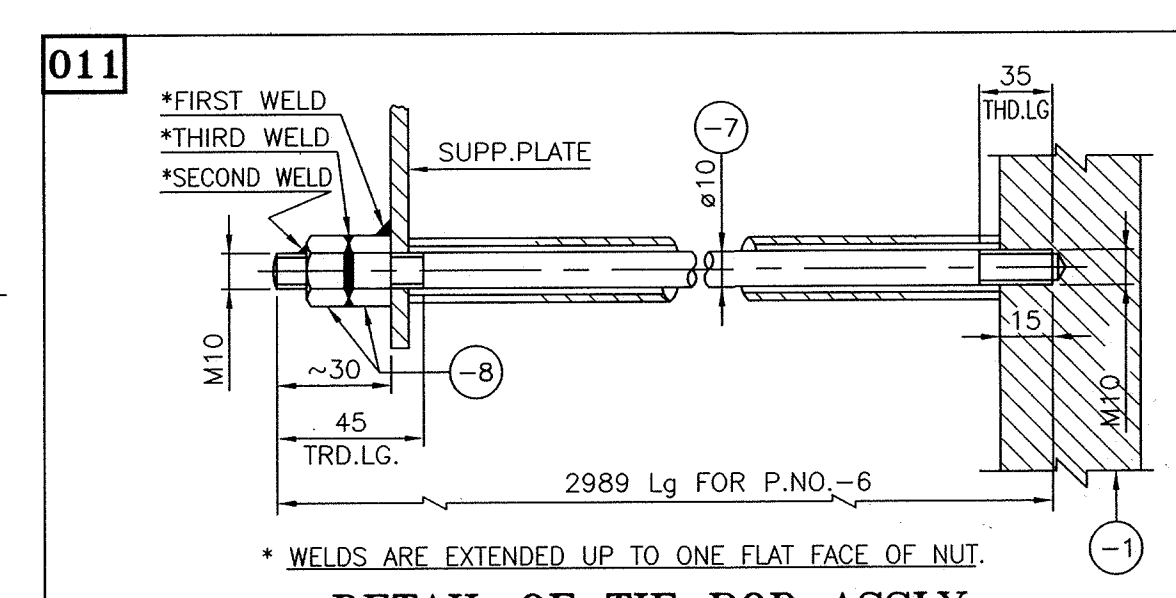
DETAIL OF BAFFLE PLATE



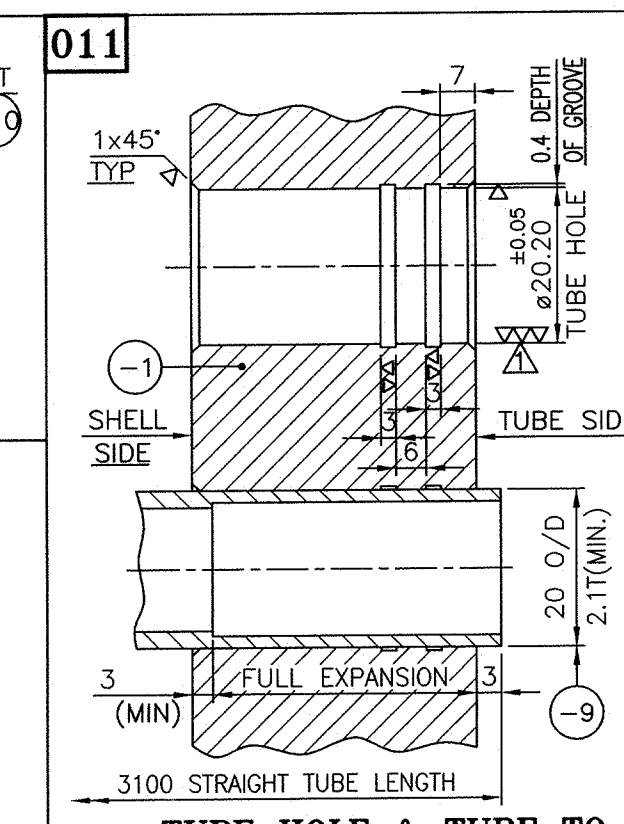
DETAIL OF SUPPORT PLAT



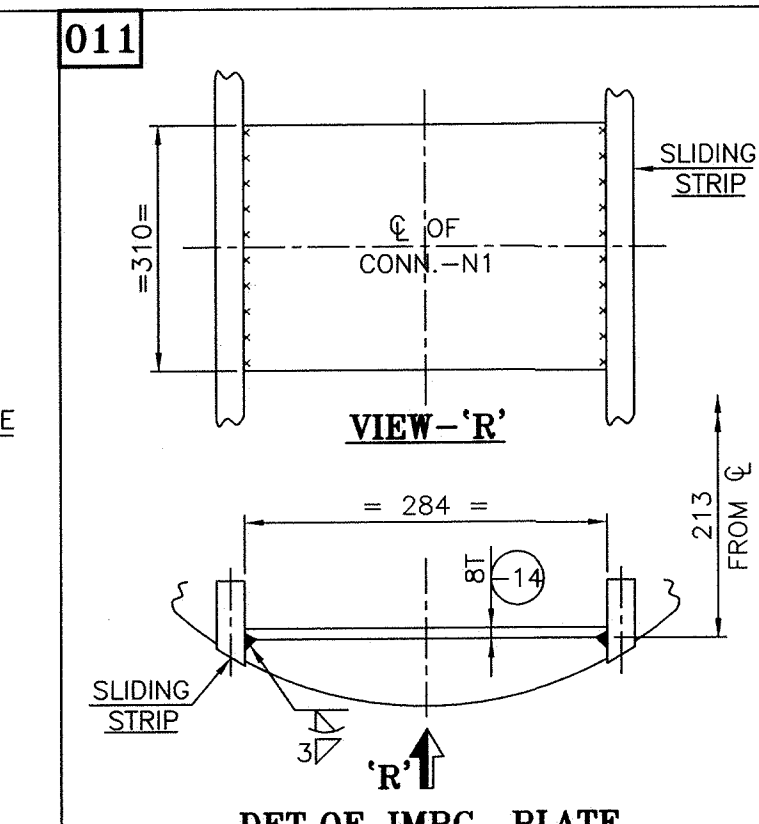
DETAIL OF BAFFLE PLATE



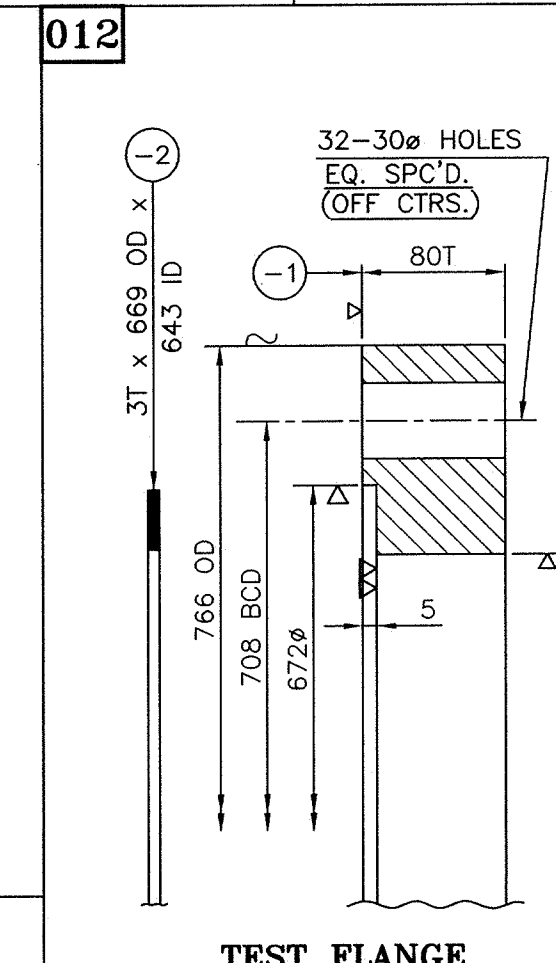
DETAIL OF TIE ROD ASSLY



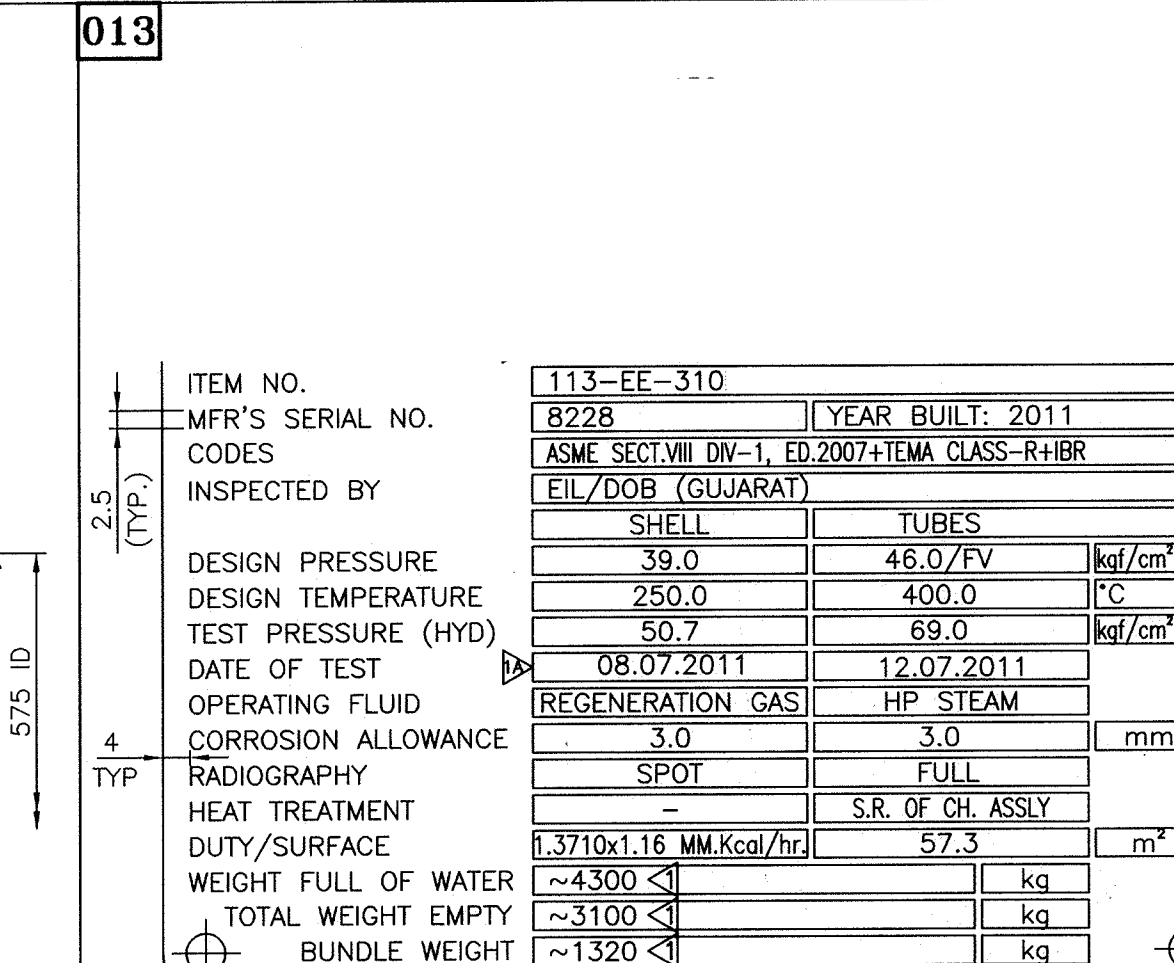
TUBE HOLE & TUBE TO
TUBE SHEET JOINT DET.



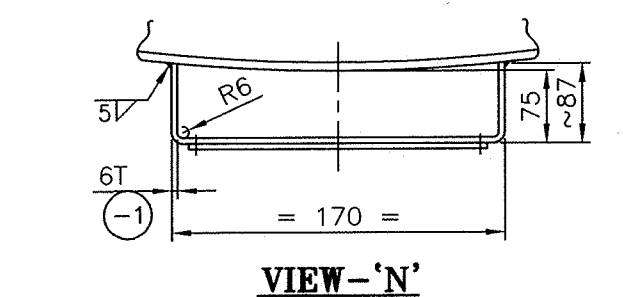
DET.OF IMPG. PLATE



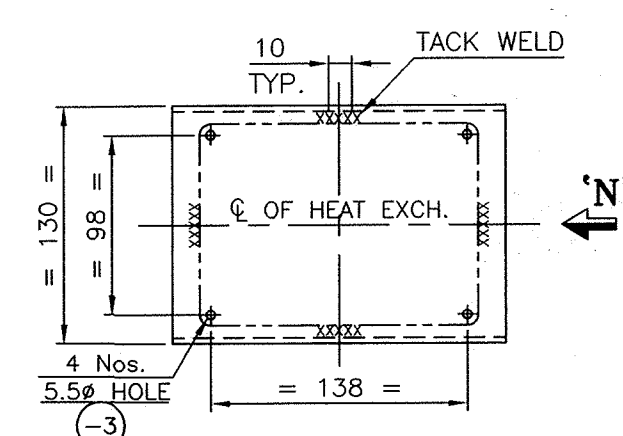
TEST FLANGE



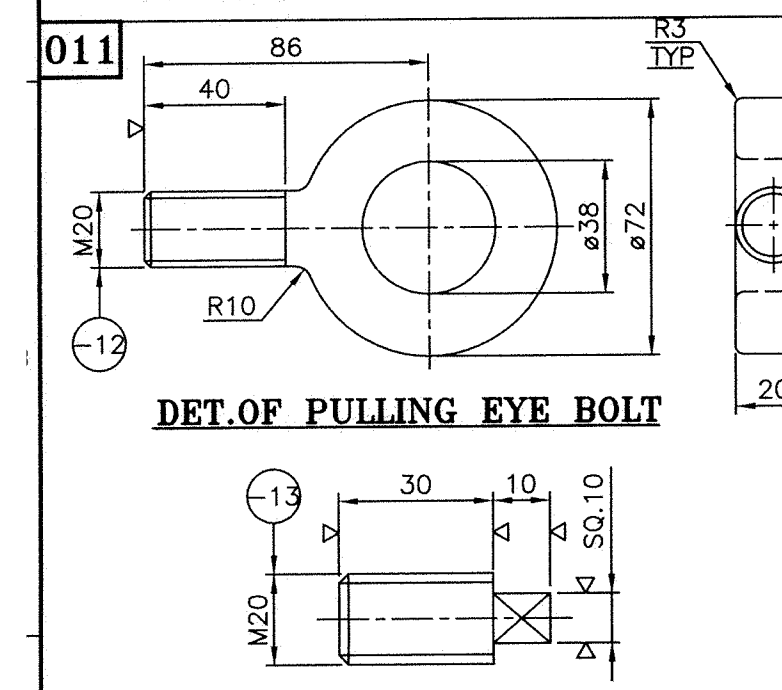
113-EE-310			
8228		YEAR BUILT: 2011	
ASMC SECT.VIII DIV-1, ED.2007+TEMA CLASS-R+HBR			
EIL/DOB (GUJARAT)			
SHELL		TUBES	
39.0		46.0/FV	
250.0		400.0	
50.7		69.0	
08.07.2011		12.07.2011	
REGENERATION GAS		HP STEAM	
3.0		3.0	
SPOT		FULL	
		S.R. OF CH. ASSLY	
1.3710x1.16 MM.Kcal/hr.		57.3	
~4300		kg	
~3100		kg	
~1320		kg	



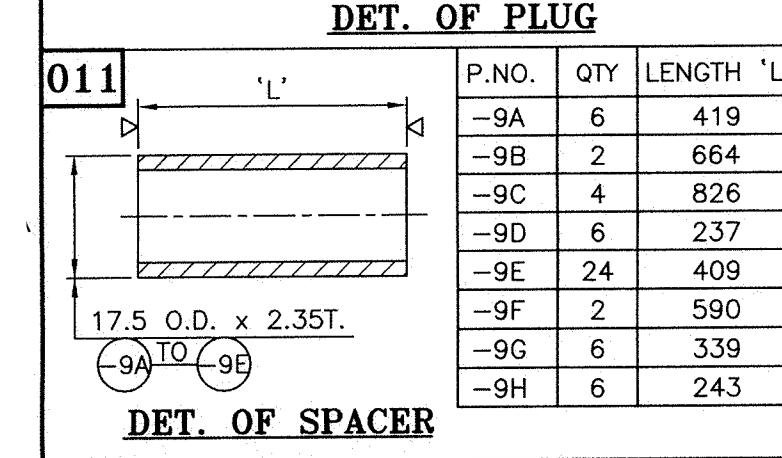
VIEW-'N'



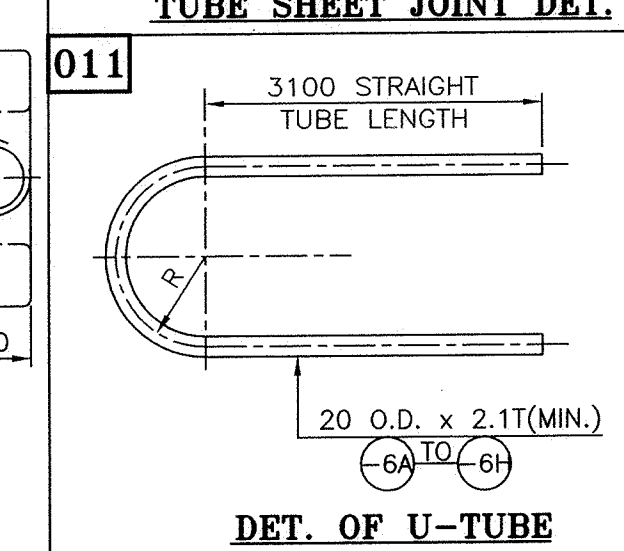
DET. OF NAME PL.
BRACKET



DET.OF PULLING EYE BOLT



DET. OF SPACER



DET. OF U-TUBE

P.NO.	QTY.	'R'	DEV. LG.
-6A	22	40	6325.66
-6B	21	61.65	6393.67
-6C	20	83.30	6461.69
-6D	21	104.95	6529.71
-6E	17	126.60	6597.72
-6F	19	148.25	6665.74
-6G	18	169.90	6733.75
-6H	13	191.55	6801.77

(1) DELETED.
(2) ALL LETTERS & LETTER BLOCKS SHALL BE ENGRAVED IN BLACK.
(3) NAME PL. SHALL BE RIVETED & TACK WELDED WITH BRACKET ON ALL FOUR SIDES

TITLE : DET OF TUBE BUNDLE,NAME PLATE,TEST FLG FOR
DRYER REGENERATION GAS HEATER
ITEM No : 113-EE-310 TYPE BEU (H)