

GENERAL NOTES :-

- 1] ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
- 2] ALL BOLT HOLES SHALL STRADDLE THE PRINCIPAL CENTER LINE.
- 3] ALL SHARP CORNERS SHALL BE ROUNDED OFF TO MINIMUM RADIUS.
- 4] IF BACK CHIPPING IS NOT POSSIBLE THEN ROOT RUN SHALL BE DONE BY TIG. ALL ACCESSABLE WELDS TO BE BACK CHIPPED & WELDED FROM OTHER SIDE.
- 5] STANDOUTS FOR NOZZLES WELDED ON SHELL & CHANNEL SHALL BE MEASURED FROM THE CENTRE LINE OF THE EXCHANGER.
- 6] ALL INSIDE WELD SHALL BE GROUND SMOOTH.
- 7] ALL WELDS SHALL BE D.P. CHECKED AFTER BACK CHIPPING.
- 8] ALL FORGINGS SHALL BE ULTRASONICALLY EXAMINED AS PER ASME Sec. II, SA-388. ACCEPTANCE STANDARD SHALL BE IN ACCORDANCE WITH PARA AM 203.2 OF ASME Sec. VIII Div. 2 CODE. SCANNING SHALL BE 100%.
- 9] ALL FORGINGS SHALL BE IN NORMALISED AND TEMPERED CONDITION.
- 10] INSIDE EDGES OF TUBE HOLES IN TUBESHEET SHALL BE FREE OF BURRS TO PREVENT CUTTING OF THE TUBES.
- 11] ALL FABRICATION, INSPECTION & TESTING REQUIREMENT SHALL BE AS PER APPROVED QAP. PROJECT SPECIFICATION & ASME. CODE
- 12] BAFFLE PLATES DISTANCE GIVEN FROM CENTER TO CENTER.
- 13] HEMI-HEAD SHALL BE OF SINGLE PIECE CONSTRUCTION.
- 14] HEMI HEAD SHALL BE SUBJECTED TO DYE PENETRANT TEST. (BOTH INSIDE & OUTSIDE) AFTER HEAT TREATMENT.
- 14] APPROVAL ON WPS AND PQR SHALL BE OBTAINED PRIOR TO FABRICATION.
- 15] ALL SOLID GASKETS SHALL BE MADE IN ONE CONTINUOUS PIECE ALL AROUND INCLUDING THE PASS RIBS AND THEREFORE MUST BE CUT FROM ONE SHEET.
- 16] ALL SPIRAL WOUND GASKET FOR SHELL SIDE SHALL BE 6.35 MM THK SS 316L WITH GRAFOIL FILLER AND 4.5 THK CS OUTER RING.
- 17] 'T' DENOTES MATCH MARK FOR ASSEMBLY AND SHALL BE PUNCHED ON ALL MATING PARTS.
- 18] ALL MATERIALS SHALL BE SUPPLIED WITH MILL TEST CERTIFICATE. REFER PARA 2.1.3 OF 6-15-0001 REV.2.
- 19] DELETED.
- 20] THE HEAT EXCHANGER SHALL BE PROVIDED WITH PRESSURE GAUGE TO MONITOR N₂ PRESSURE (0.25 Kg/cm²) AND 1/2" NON RETURN VALVE AS PER 6-15-0001 REV.2. PARA 9.1.
- 21] EQPT. SHALL BE DRIED & THOROUGHLY CLEANED BOTH INSIDE AND OUTSIDE AND ALL WATER, DIRT, SAND, WELD METAL, SPATTER, WELD ELECTRODES, STUB & FOREIGN MATERIALS SHALL BE REMOVED.
- 22] FOR CONSTRUCTIONAL DETAILS AND NOMENCLATURES REFER EIL STANDARDS NUMBER.
- EIL PR NO. 4814-07-EE-PR-7041 REV.0 CHEVRON THERMAL DATASHEET RC-201123 REV.1A. GENERAL SPEC. 6-15-0001 REV-2., 6-15-0003 REV-2, 6-15-0006 REV.2. 7-15-0001 REV.1, 7-15-0002 REV.1, 7-15-0004 REV.1, 7-15-0007 TO 0009 REV-1, 7-15-0016 REV.1, 7-15-0017 REV.1, 7-15-0018 REV.1, 7-15-0019 REV.1, 7-76-0101 REV.2 4814-07-EE-SP-0001 REV.A, 4814-30-EE-SP-1000 REV.0, EXH-EG-4764-A REV.A, EXH-MS-2583-K REV.K PVM-EG-4749 REV.B, GC-E1048 REV.3, GD-L1264-REV.3, ANNEXURE TO JOB SPECIFICATION 4814-07-EE-SP-0001 REV.1 6-120018 REV.1, PIPE SUPPORT CLIPS REV.0
- 23] DELETED.
- 24] ALL OF THE REMOVABLE PARTS SHALL BE STAMPED WITH THE ITEM NUMBER.
- 25] ALL SURFACES (OTHER THAN GASKET SURFACES) OF SHELL DRUM FORGINGS, CHANNEL COVER ETC. SHALL BE MACHINED TO 8 CLA MICRONS (250 RMS) OR BETTER, AFTER FINAL HEAT TREATMENT.
- 26] SPARE PARTS :-

STUD BOLTS/NUTS	:- 20% (MIN. 4SETS)
GASKET	:- 400%
GASKET RETAINER	:- 100%
PUSH RODS	:- 100%

④ **"AS BUILT DWG"**

- 27] THE EXCHANGER SUBJECT TO 85 Kg/cm²g DIFFERENTIAL PRESSURE ON SHELL SIDE (WITH NO PRESSURE ON TUBE SIDE) & 85 Kg/cm²g DIFFERENTIAL PRESSURE ON TUBE SIDE (WITH NO PRESSURE ON SHELL SIDE)
- 28] HYDRO TEST SHALL BE CARRIED OUT AS FOLLOWS:-
 - A) PRIOR TO ASSEMBLY OF CHANNEL COVER : FROM SHELL SIDE AT A PRESSURE OF 110.5 Kg/cm²g.
 - B) AFTER COMPLETE ASSEMBLY : i) FROM TUBE SIDE AT A PRESSURE OF 110.5 Kg/cm²g ii) SIMULTANEOUSLY FROM SHELL SIDE & TUBE SIDE AT A PRESSURE INDICATED IN DESIGN DATA.

CAUTION :-THE DIFFERENTIAL HYDRO TEST PRESSURE BETWEEN SHELL SIDE & TUBE SIDE SHALL NOT BE ALLOWED EXCEED MORE THAN 110.5 Kg/cm²g AT ANY TIME DURING HYDROTEST.
- 29] CORROSION ALLOWANCE

TUBES	1mm
TUBESHEET	3mm
BAFFLES	3mm
SEALING STRIP	3mm
IMPACT BAR	3mm
PASS PARTITION PL.	3mm
SHELL COVER	3mm
CHANNEL	3mm

DRAWING CERTIFIED BY

Harry R. Bishop 02/17/03

HARRY R. BISHOP
CHIEF DESIGN ENGINEER

- 30] ANCHOR BOLT MATL. IS IS:2062 (BY OTHERS)
- 31] DELETED.
- 32] PAINTING (SHOP PRIMER) OF EXCHANGERS SHALL BE AS FOLLOWS :- THE EXTERNAL SURFACE SHALL BE PREPARED FOR PAINTING BY BLAST CLEANING TO NEAR WHITE FINISH AS PER SSPC-SP-10 [SA 2 1/2 SWEDISH STANDARD (SIS-05-5900)]. THE SHOP PRIMER SHALL BE INORGANIC ZINC SILICATE @ 65-75 MICRONS DRY FILM THICKNESS.

4	02/17/03	AS BUILT DIMENSIONS ARE SHOWN IN	DMF	WB	HRB
		BKT (-) & OTHER REVISED AS MKD. THUS			
3	04/19/02	DWG IS REVISED AS MKD. THUS.	DMF	WB	HRB
2	04/03/02	DWG IS REVISED AS MKD. THUS.	DMF	WB	HRB
REV.	DATE	DESCRIPTION	DRWN	CHKD	APPD

PROJECT NAME : CPCL REFINERY- III PROJECT					
MANUFACTURER :		 TEMA INDIA LTD <small>Factory: Achhad Village, Dist. Thane, & Kherdi, Silvassa Gram: CODEVESEL Mumbai 68.</small>			
ENGINEERING :		STRUTHERS INDUSTRIES, INC. GULFPORT, MISSISSIPPI			
CONSULTANT :		ENGINEERS INDIA LIMITED			
CLIENT :		CHENNAI PETROLEUM CORPORATION LIMITED			
TITLE : GENERAL NOTES FOR REACTOR EFFLUENT / RECYCLE GAS				EQPT. NO. 207-E7	
JOB NO.	SII	3-02-04-41206E	P/O No.	1027/PO/2138/4814	
	TEMA	T/E/02520			
SCALE	NTS	DWG. No. or Doc No.	VP-1027-E7-02520	SHT. NO.	Rev.
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