



Geecy Engineering Pvt. Ltd.

SUPPLY LIST FOR HEAT EXCHANGERS AS PER TEMA

Date: 28/06/2012

| Sr. No. | Job No. | Client / Equipment No. | Plant / Project | Unit/ Qty. (Nos.) | Item Description | Code of Construction | TEMA Type | SHELL | | TUBE | | TUBE SHEET | | CHANNEL | | Shell Diameter / ID (mm) | Tube to tube sheet joint, Expanded / Welded Grooves/ Welded | Empty weight (kgs.) | Date of Supply | Inspection Authority |
|---------|---------|------------------------|-----------------|-------------------|---------------------------------------|----------------------|-----------|-----------------|----------|---|----------|-----------------------------------|----------|-----------------------------------|----------|--------------------------|---|---------------------|---------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 1 | 140 | RIL (E2013N) | PATALG ANGA | 1 | NHT STR. FEED / PLANT PRODUCT | ASME | BES | SA-516 GR.60 | 10 | SA-179 | 14 BWG | SA-266 GR.2N | 50 | SA-516 GR.60 | 10 | 603 | WELDED + EXPANDED | 5950 | 27/11/01 | PDIL |
| 2 | 233 | IPCL (E210C & E220C) | GANDH AR | 2 | STEAM | ASME | BKU (H) | SA-516 GR.70 | 18 | SB 111 C71500 + 70/30 CU/NI | 14 BWG | SA-266 GR.2 + MONEL 400 | 125+10 | SA-516 GR.70 | 18 | 1530 | WELDED + EXPANDED | 13000 | 27/06/03 & 19/07/03 | IBR / LRA |
| 3 | 269 | VVF LTD (02E6 & 02E8) | TALOJA | 2 | WCT / FATTY ALC. + H2 | ASME | --- | SA-516 GR.70 | 10 | SA-209 GR.T1 | 4 | SA-182 GR.F1 | 240 | SA-516 GR.70 | 20 | 406.4 | WELDED + EXPANDED | 7300 | 04/03/04 | UIL / VVF |
| 4 | 271 | RIL | HAZIRA | 1 | VCM COLUMN CONDENSER | ASME | BEM | SA-516 GR.70 | 14 | SB 111 C70600 | 13 BWG | SA-266 GR.2 + 90/10 CU/NI | 96+10 | SA-516 GR.70 | 16 | 1525 | SEAL WELD WITH EXPANSION IN TO TWO GROOVES | 29021 | 09/04/04 | LRA |
| 5 | 301 | IPCL (H-518) | BAROD A | 1 | STEAM + EDC & HEAVY ENDS | ASME | BEM (V) | SA-516 GR.60 | 12 | SA-111 C71500 (70/30 CU/NI) | 2.11 | SA-516 GR.70 + SB 127 UNS NO 4400 | 50+10 | SA-516 GR.70 + SB 127 UNS NO 4400 | 10+3 | 800 | WELDED + EXPANDED | 4900 | 01/09/04 | IRS |
| 6 | 304 | IPCL (E-535) | GANDH AR | 1 | STEAM + GLYCOL VAPOUR/ AQUEOUS GLYCOL | ASME | BEN | SA-240 TYPE 304 | 10 | UOP HIGH FLUX TUBES SB 466 UNS C70600 (90/10 CU/NI) | 1.65 | SA-336 F 304L | 56 | SA-240 TYPE 304 | 10 | 2220 | WELDED + EXPANDED | 29500 | 24/09/04 | TUV |
| 7 | 304 | IPCL (E-531) | GANDH AR | 1 | STEAM + GLYCOL VAPOUR/ AQUEOUS GLYCOL | ASME | BEN | SA-240 TYPE 304 | 20 | UOP HIGH FLUX TUBES SB 466 UNS C70600 (90/10 CU/NI) | 1.65 | SA-336 F 304L | 94 | SA-240 TYPE 304 | 16 | 1400 | WELDED + EXPANDED | 18500 | 26/08/04 | TUV |



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|---------|---------|--------------------------|-----------------|-------------------|---------------------------|----------------------|-----------|----------------|----------|------------------------|----------|---------------------------------|----------|------------------|----------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 8 | 306 | VVF LTD (02E5) | TALOJA | 1 | H2 / FATTY ALC. H2 | ASME | --- | 12 Cr. Mo 9.10 | 32 | 13 Cr. Mo. 4.4 | 2.6 | 12 Cr. Mo. 9.10 | 100 | 12 Cr. Mo. 9.10 | 36 | 462 | WELDED + EXPANDED | 32000 | 20/04/04 | UIL |
| 9 | 322 | TECHNIP | BPCL MUMBAI | 1 | CRU HEATER | ASME | --- | --- | --- | SA-335 GR. P9 & 168.3 | 19 | --- | --- | --- | --- | --- | --- | 11635 | 16/10/04 | EIL |
| 10 | 322 | TECHNIP | BPCL MUMBAI | 1 | RADIANT COIL INTER HEATER | ASME | --- | --- | --- | SA-335 GR. P9 & 114.3 | 13.5 | --- | --- | --- | --- | --- | --- | 24647 | 16/10/04 | EIL |
| 11 | 322 | TECHNIP | BPCL MUMBAI | 1 | HEATER EXTRUDED HEADER | ASME | --- | --- | --- | SA-335 GR. P11 & 406.4 | 40.5 | --- | --- | --- | --- | --- | --- | 15797 | 16/10/04 | EIL |
| 12 | 365 | RIL (E3-1428) | HAZIRA | 1 | PTA DRIER CONDENSER | ASME | BEM (V) | SA-516 GR.70 | 14 | DUPLEX UNS S32205 | 1.65 | SA-266 GR.2 + UNS S32205 (CLAD) | 105+8 | SA-240 TYPE 304L | 10 | 2145 | WELDED + EXPANDED | 20743 | 18/02/06 | LRA |
| 13 | 370 | IPCL (12-4443 & 12-4444) | BAROD A | 2 | STEAM | ASME | BEM | --- | --- | SA-213 GR. T11 | | SA-336 F 11 CL 2 | 285 & 15 | --- | --- | 900 | WELDED | 6000 | 20/05/06 | IBR + IPCL |
| 14 | 284 | IPCL (21-11-112) | BAROD A | 1 | STEAM | ASME | BEM | --- | --- | SA-213 GR. T11 | | SA-336 F 11 CL 2 | 15 | --- | --- | 570 | WELDED | 4800 | 12/08/05 | IBR + IPCL |



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|---------|---------|------------------------|---------------------|-------------------|-----------------------------------|----------------------|-----------|--------------------------------|----------|----------------------------|----------|-------------------------------------|----------|-----------------------------|----------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 15 | 410 | IPCL | BAROD A | 1 | HF STRIPPER CONDENSER | ASME | AEU (H) | SA-516 GR.70 | 12 | SB 163 UNS 4400 | 14 BWG | SB 127 UNS 4400 | 73 | SA-516 GR.70 | 12 | 850 | STRENGTH WELD WITH EXPANDED IN TWO GROOVES | 11600 | 27/07/06 | SGS |
| 16 | 430.1 | IPCL | BAROD A | 1 | NEW AJ2 2ND STAGE CONDENSER | ASME | BEM | SB 127 UNS 4400 | 6 | SB 163 UNS 4400 | 2.11 | SB 127 UNS 4400 | 36 | SA-516 GR.70 | 10 | 336 | STRENGTH WELD WITH EXPANDED IN TWO GROOVES | 989 | 31/01/07 | SGS |
| 17 | 436 | ISIN | SINGAPORE | 1 | REACTOR FEED COOLER (TUBE BUNDLE) | ASME | CEU | --- | --- | SA-210 GR. A1 | 2.77 | SA-266 CL.2 | 215 | SA-266 CL.2 | 110 | --- | STRENGTH WELD WITH LIGHT EXPANSION | 22000 | 17/12/06 | LRA |
| 18 | 437 | HRHE (E-1160) | ONGC | 1 | WELL FLUID HEATER | ASME | AEL (H) | SA-516 GR.70 HIC + NACE MR0175 | 10 | (DUPLEX) SA-789 UNS 531803 | 16 BWG | SA-266 CL.4 + INCOLLOY 825 DIPOSITE | 71+5 | SA-516 GR.70 + UNS8825 CLAD | 10+3 | 730 | WELDED + EXPANDED | 5500 | 24/03/07 | BVIS |
| 19 | 458 | NIRMA LTD. (E3107B) | AHMED ABAD | 1 | VEPOR PREHEATER | ASME | BEM | SA-516 GR.70 | 12 | SB 338 GR.2 | 1 | SA-516 GR.70 + SB 365 GR.2 | 50 | SB 127 UNS NO 4400 | 6 | 784 | EXPANSION | 3400 | 10/01/07 | J H&G |
| 20 | 459 | MCC PTA (2E-2741) | HALDIA, WEST BENGAL | 1 | 2F-2721 LOAD CONTROLLER | ASME | BKU (H) | SA-516 GR.70 | 18 | SA-249 TP 404 | 2.3 | SA-266 GR.4 | 100 | SA-516 GR.70 | 12 | 2200 | SEAL WELD WITH EXPANSION | 15240 | 26/07/07 | CIB / TEIL |
| 21 | 459 | MCC PTA (2E-2223) | HALDIA, WEST BENGAL | 1 | 3RD SLURRY HEATER | ASME | BEM (H) | SA-240 TYPE 304L | 10 | SA-213 TP 304L | 2 | SA-336 F 304L | 250 | SA-240 TYPE 304L | 28 | 600 | FULL STRENGTH WELD + CONTACT EXPANSION | 8451 | 23/05/07 | TEIL |



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|---------|---------|------------------------|---------------------|-------------------|---|----------------------|-----------|------------------|----------|----------------|----------|-------------------|----------|------------------|----------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 22 | 459 | MCC PTA (2E-2224A) | HALDIA, WEST BENGAL | 1 | 4TH SLURRY HEATER | ASME | BEM (H) | SA-240 TYPE 304L | 20 | SA-213 TP 304L | 3.2 | SA-336 F 304L | 280 | SA-240 TYPE 304L | 32 | 730 | FULL STRENGTH WELD + CONTACT EXPANSION | 22124 | 18/07/06 | TEIL |
| 23 | 461 | MCC PTA (2E-1711) | HALDIA, WEST BENGAL | 1 | FEED COOLER | ASME | BEM (H) | SA-516 GR.70 | 8 | SA-249 TP 316L | 2 | SA-336 GR. F 316L | 37 | SA-240 TYPE 316L | 8 | 700 | SEAL WELD WITH EXPANSION | 2800 | 02/05/07 | TEIL |
| 24 | 461 | MCC PTA (2E-2222) | HALDIA, WEST BENGAL | 1 | 2ND SLURRY HEATER | ASME | BEM (H) | SA-240 TYPE 304L | 6 | SA-213 TP 304L | 2.0 THK | SA-336 F 304L | 235 | SA-240 TYPE 304L | 28 | 580 | FULL STRENGTH WELD | 6921 | 09/06/07 | TEIL |
| 25 | 470 | IOCL (26-E-102) | PANIPAT | 1 | TGU WASTE HEAT EXCHANGER (REFRACTORY LINED) | ASME | NKN (H) | SA-516 GR.70 | 16 | SA-179 | 2.5 | SA-266 GR.4 | 89 | SA-516 GR.60 | 16 | 2232 | STRENGTH WELD WITH EXPANSION | 35000 | 21/04/07 | CIB / TUV |
| 26 | 480 | RPL | JAMNAGAR | 2 | CYCLE GAS COOLER | ASME | BEM | SA-516 GR.70 | 20 | SA-179 | 2.11 | SA-266 GR.4 | 330 | SA-516 GR.70 | 56 | 2311 | STRENGTH WELD WITH EXPANDED | 98540 | 30/01/08 | TUV |
| 27 | 482 | RPL | JAMNAGAR | 1 | STEAM CONDENSER | ASME | BEM (V) | SA-516 GR.70 | 14 | SA-179 | 2.77 | SA-266 GR.2 | 95 | SA-516 GR.70 | 14 | 1890 | EXPANDED | 16688 | 09/10/07 | TUV / IBR |



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|---------|---------|------------------------|---------------------|-------------------|--------------------------------|----------------------|-----------|------------------|----------|-------------------|----------|-------------------|----------|------------------|----------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 28 | 483 | MCC PTA (E-1871) | HALDIA, WEST BENGAL | 1 | EJECTOR PRE CONDENSER | ASME | BEM (V) | SA-240 TYPE 316L | 8 | SA-213 TP 316L | 2 | SA-240 TYPE 316L | 39 | SA-240 TYPE 316L | 8 | 1100 | SEAL WELD WITH EXPANSION | 10320 | 21/12/06 | GEECY / MPIPL |
| 29 | 492 | HPL (2E-409N) | HALDIA, WEST BENGAL | 1 | ETHANE EVAPORIZER | ASME | BKU (H) | SA-240 TYPE 304 | 8 | SA-213 GR. TP 304 | 1.24 | SA-336 GR. F 304 | 162 | SA-240 TYPE 304 | 20 | 1850 | FULL STRENGTH WELD WITH EXPANDED | 15123 | 02/02/08 | BVIS |
| 30 | 492 | HPL (2E-411N) | HALDIA, WEST BENGAL | 1 | DEMETHANIZER FEED CHILLER NO.3 | ASME | BKU (H) | SA-240 TYPE 304 | 8 | SA-213 GR. TP 304 | 1.65 | SA-336 CL. F 304 | 154 | SA-240 TYPE 304 | 18 | 1600 | FULL STRENGTH WELD WITH EXPANDED | 14912 | 02/02/08 | BVIS |
| 31 | 493 | ISIN (1-E-18A/B) | SINGAPORE | 1 | QUENCH WATER COOLER | ASME | AES (H) | SA-516 GR.70N | 16 | SA-179 | 2.11 | SA-266 CL.2 | 70 | SA-516 GR.70N | 14 | 1074 | STRENGTH EXPANSION | 28000 | 12/09/07 | LRA |
| 32 | 499 | IPCL (40-PK-001E03) | GANDHAR | 1 | EVAPORATOR | ASME | NEN (V) | SA-240 TYPE 316L | 6 | SA-213 TP 316L | 1.65 | SA-240 TYPE 316L | 50+10 | SA-240 TYPE 316L | 6 | 1400 | SEAL WELD WITH EXPANSION | 10000 | 12/12/07 | IRS |
| 33 | 501 | IPCL (2900-20-E-262) | GANDHAR | 1 | HCL STRIPPING COLUMN CONDENSER | ASME | BEM (H) | SA-516 GR.60 | 12 | SB 111 C71500 | 2.11 | SA-516 GR.60 | 35 | SA-516 GR.60 | 12 | 762 | STRENGTH EXPANSION | 3206 | 21/06/07 | IRS |
| 34 | 514 | RIL (NE-316N) | HAZIRA | 1 | OBSERBER OVERHEAD GAS COOLER | ASME | AXM | SA-240 TYPE 304L | 20 | SA-213 TP 304L | 2.11 | SA-336 GR. F 304L | 96 | SA-516 GR.70 | 16 | 1425 | WELDED + EXPANDED | 25800 | 23/12/07 | BAX COUNSEL |



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|---------|---------|------------------------|-----------------|-------------------|-----------------------------|----------------------|-----------|------------------|----------|----------------|----------|---------------------|----------|-------------------|---------------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 35 | 517 | RIL (H-106) (12-5170) | GOP | 1 | TRANSFER LINE EXCHANGER | ASME | --- | --- | --- | SA-213 GR. T11 | 4 | SA-336 F 11 T 12 | 100 | --- | --- | 570 | WELDED + LIGHT EXPANSION | 4800 | 17/04/08 | RIL & CIB |
| 36 | 522 | RIL (E-8723) | PATALG ANGA | 1 | REGENERATION MIXTURE HEATER | ASME | DEU (H) | SA-240 TYPE 304H | 10 | SA-213 TP 304H | 3.4 | SA-336 GR. F 304H | 287 + 75 | SA-336 GR. F 304H | 1500 # WNR TJ | 337 | WELDED + EXPANDED IN TWO GROOVES | 2245 | 21/08/08 | SIGNATE ENGINEERS |
| 37 | 528 | RIL (12-6331) | GOP | 1 | TLE RETUBING | ASME | --- | --- | --- | SA-213 GR. T11 | 4 | SA-336 F 11 CL 2 | 120 | --- | --- | 923 | WELDED + LIGHT EXPANSION | 12000 | 14/06/08 | RIL & CIB |
| 38 | 529 | RIL (EA3204N) | HAZIRA | 1 | LB REBOILER | ASME | BEM (V) | SA-516 GR.70 | 30 | SA-179 | 2.11 | SA-266 GR.2 | 160 | SA-516 GR.70 | 22 | 1700 | WELDED + EXPANDED IN TWO GROOVES | 32000 | 23/03/08 | BVIS |
| 39 | 530.4 | UHDE (118-E-006) | EPPC | 1 | DRIED GAS CHILLER III | ASME | BKU | SA-537 CL.1 | 12 / 18 | SA-334 GR. 6 | 2.11 | SA-350 GR. LF3 CL.1 | 112 | SA-516 GR.60 | 16 | 700 / 1282 | STRENGTH WELD | 6435 | 16/10/08 | TUV |
| 40 | 530.5 | UHDE (118-E-008) | EPPC | 1 | DEATHANISER CONDENSER | ASME | BKU | SA-537 CL.1 | 10 & 20 | SA-334 GR. 6 | 2.11 | SA-350 GR. LF3 CL.1 | 89 | SA-516 GR.60 | 14 | 600 / 1529 | STRENGTH WELD | 9120 | 16/10/08 | TUV |
| 41 | 530.11 | UHDE (322-E-003) | EPPC | 1 | PRODUCT CHILLER | ASME | BKU | SA-537 CL.1 | 12 & 16 | SA-334 GR. 6 | 2.11 | SA-350 GR. LF3 CL.1 | 82 | SA-537 CL.1 | 12 | 700 / 1558 | STRENGTH WELD | 8748 | 16/10/08 | TUV |



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|---------|---------|-------------------------------|---------------------|-------------------|------------------------------|----------------------|-----------|------------------|----------|-----------------------|----------|-----------------------------------|----------|------------------|----------|--------------------------|---|---------------------|-------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 42 | 530.12 | UHDE (322-E-005) | EPPC | 1 | SUB COOLER | ASME | BEU | SA-537 CL.1 | 12 | SA-334 GR. 6 | 2.11 | SA-350 GR. LF3 CL.1 | 83 | SA-537 CL.1 | 12 | 800 | STRENGTH WELD | 4102 | 16/10/08 | TUV |
| 43 | 532.1 | UHDE (311-E-001) | EPPC | 1 | PROPANE HEATER | ASME | --- | SA-240 GR. 304L | 5 & 8 | SA-213 TP 304L | 2 | --- | --- | --- | --- | --- | --- | 9850 | 16/10/08 | TUV |
| 44 | 532.4 | UHDE (322-E-004) | EPPC | 1 | CHILLED WATER COOLER | ASME | BKU | SA-537 CL.1 | 12 & 14 | SA-334 GR. 6 | 2.11 | SA-350 LF3 CL.1 | 80 | SA-537 CL.1 | 12 | 775 / 1119 | STRENGTH WELD | 8030 | 16/10/08 | TUV |
| 45 | 546.1 | ARTENIUS SINES PTA (E1-1418B) | MEGA PTA | 1 | SECOND RESLURRY WATER HEATER | ASME | BEM (V) | SA-240 TYPE 304L | 8 | SA-213 TP 304L | 2 | SA-336 F 304L / SA 965 GR. 304L | 118 | SA-240 TYPE 304L | 8 | 700 | WELDED + CONTACT EXPANSION | 4030 | 28/03/09 | TUV NORD |
| 46 | 546.3 | ARTENIUS SINES PTA (E1-1218) | MEGA PTA | 1 | CONDENSATE SUB-COOLER | ASME | BEM (H) | SA-240 TYPE 304L | 12 | SA-213 TP 304L | 2.108 | SA-965 F 304L | 136 | SA-965 F 304L | 110 | 380 | WELDED + CONTACT EXPANSION | 2800 | 28/03/09 | TUV NORD |
| 47 | 546.4 | ARTENIUS SINES PTA (E1-1218) | MEGA PTA | 1 | OFF GAS HEATER | ASME | SPECIAL | SA-240 TYPE 304L | 12 | TUBACEX (UNS NO.8028) | 2.110 | SA-965 F 304L+ UNS NO.8028 CLAD | 80+10 | --- | --- | 2300 | WELDED + CONTACT EXPANSION | 10030 | 28/03/09 | TUV NORD |
| 48 | 547.6 | TECHNIP INDIA LTD. (E-21201) | TCI SANMAR CHEMICAL | 1 | VCM RUNDOWN CHILLER | ASME | AKM (H) | SA-516 GR.70N | 10 | SA-334 GR. 6 | 2.108 | SA-350 GR. LF2 CL.1 | 51 | SA-516 GR.70N | 10 | 800 | WELDED + LIGHT EXPANSION | 2282 | 04/03/09 | TECHNIP |
| 49 | 552.1 | ARTENIUS SINES PTA (E1-1615) | MEGA PTA | 1 | VENT SCRUBBER CONDENSER | ASME | NEN (V) | SA-516 GR.70 | 18 | SA-789 UNS S32205 | 2.1 | SA-350 LF2 CL.1 + UNS S32205 CLAD | 70 | --- | --- | 3100 | WELDED + CONTACT EXPANSION | 19267 | UNDER FABRICATION | LR VERIFICATION LTD. |



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|---------|---------|-------------------------------|-----------------|-------------------|----------------------------------|----------------------|-----------|--------------|----------|--|----------|-------------------------------------|----------|-------------------|----------|--------------------------|---|---------------------|-------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 50 | 552.2 | ARTENIU S SINES PTA (E1-608) | MEGA PTA | 1 | DH COLUMN CONDENSER | ASME | BEN (V) | SA-516 GR.70 | 18 | SA-789 UNS S32205 | 1.24 | SA 350 GR. F2 CL.2 + SS 304L CLAD | 86 | SA-240 TYPE 304L | 14 | 2400 | WELDED + CONTACT EXPANSION | 31713 | UNDER FABRICATION | LR VERIFICATION LTD. |
| 51 | 552.3 | ARTENIU S SINES PTA (E1-1428) | MEGA PTA | 1 | PTA DRIER CONDENSER | ASME | NEN (V) | SA-516 GR.70 | 14 | SA-789 M UNS S32205 | 1.65 | SA 350 LF2 + DUPLEX UNS S32205 CLAD | 78 | SA-240 TYPE 304L | 10 | 2200 | WELDED + CONTACT EXPANSION | 18486 | UNDER FABRICATION | LR VERIFICATION LTD. |
| 52 | 552.5 | ARTENIU S SINES PTA (E1-404) | MEGA PTA | 1 | THIRD CTA CRYSTALLISER CONDENSER | ASME | BEM (V) | SA-516 GR.70 | 14 | SA-789 UNS S32205 | 1.65 | SA-266 CL.2 + UNS S32205 CLAD | 57 | SA-240 TYPE 316L | 10+3 | 1075 | WELDED + CONTACT EXPANSION | 10970 | UNDER FABRICATION | LR VERIFICATION LTD. |
| 53 | 552.8 | ARTENIU S SINES PTA (E1-502) | MEGA PTA | 1 | CTA DRIER SCRUBBER COOLER | ASME | BEM (H) | SA-516 GR.70 | 12 | SA-789 UNS S32205 | 1.65 | SA-336 GR. F 316L | 243 | SA-336 GR. F 316L | 133 | 850 | --- | 10444 | UNDER FABRICATION | LR VERIFICATION LTD. |
| 54 | 563 | RIL (NE-601 (N)) | HAZIRA | 1 | MEG COLUMN REBOILER | ASME | BEM (V) | SA-516 GR.70 | 20 | SA-268 TP 410 | 2.108 | SA-266 CL.2 | 87 | SA-516 GR.70 | 20 | 1900 | WELDED + EXPANSION IN TWO GROOVES | 18911 | 07/03/09 | BVIS |
| 55 | 566 | RIL (E220 (N)) | GANDHAR | 1 | REGENERATOR REBOILER | ASME 'U' STAMP | BEM (V) | SA-516 GR.70 | 14 | SA-213 GR. TP 304 | 2 | SA-965 GR. F 304 | 75 | SA-240 TYPE 304 | 8 | 1600 | WELDED + EXPANSION IN TWO GROOVES | 21044 | 07/10/09 | AI / CIB |
| 56 | 570 | RIL (H-201) | VC / PVC | 1 | EDC VAPORISER | ASME | BKU (H) | SA-516 GR.70 | 20 | SB 111 COPPER ALLOY UNS 71500 ANNEALED | 14 BWG | SA-266 CL.2 | 125 | SA-516 GR.70 | 14 | 1600 | EXPANDED IN TWO GROOVES | 17660 | 14/09/09 | IRS |



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Date: 28/06/2012

| Sr. No. | Job No. | Client / Equipme nt No. | Plant / Project | Unit/ Qty. (Nos.) | Item Description | Code of Constr uction | TEMA Type | SHELL | | TUBE | | TUBE SHEET | | CHANNEL | | Shell Diameter / ID (mm) | Tube to tube sheet joint, Expanded / Welded Grooves/ Welded | Empty weight (kgs.) | Date of Supply | Inspection Authority |
|---------|---------|-------------------------------|--------------------|-------------------|----------------------------|-----------------------|----------------------|--------------------|----------|---------------------|-------------|----------------------|----------|--------------------|----------|--------------------------|---|---------------------|-------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 57 | 569.3 | DFPCL (E116B) | NITRIC ACID TALOJA | 1 | COOLER CONDENSE R 'B' | ASME | NEL | SA-516 GR.70 | 10 | SA-249 TP 304L | 1.65 (AVG) | SA-336 F 304L | 75 | SA-240 GR. 304L | 22 | 1054 | EXPANDED IN TWO GROOVES | 5500 | 18/08/09 | IBIC |
| 58 | 569.4 | DFPCL (114F) | NITRIC ACID TALOJA | 1 | STEAM SUPER HEATER | ASME | --- | SA-240 GR. 321 | 22 | FINTUBE SA 106 GR.B | SCH STD. | --- | --- | --- | --- | 2540 | --- | 17704 | 18/08/09 | IBIC & CIB |
| 59 | 595.1 | L&T (511-E-001 A/B/C) | GGSR | 3 | FEED / EFFLUENT EXCHANGE R | ASME | BES (H) | SA-240 GR.321 | 16 | SA-213 GR. TP 321 | 2 | SA-965 GR. F 321 | 109 | SA-240 GR. 321 | 16 | 672 | WELDED LIGHT EXPANSION | 7180 X 3 = 21540 | 01/12/09 | TUV |
| 60 | 595.3 | L&T (511-E-102 A/B & 202 A/B) | GGSR | 4 | FEED PREHEATE R | ASME | BEM (V) | SA-387 GR. 11 CL.1 | 30 | SA-213 GR. T11 | 2.11 | SA-336 GR. F 11 CL.2 | 127 | SA-387 GR. 11 CL.1 | 20 | 730 | WELDED + LIGHT EXPANSION | 8720 | UNDER FABRICATION | TUV |
| 61 | 595.4 | L&T (511-E-108 & 208) | GGSR | 2 | DMW PREHEATE R | ASME | BEM (H) | SA-240 GR. 304L | 10 | SA-213 GR. TP 304L | 1.6 | SA-965 GR. F 304L | 78 | SA-240 GR. 304L | 18 | 685 | WELDED + LIGHT EXPANSION | 5740 | 30/11/09 | TUV |
| 62 | 596.2 | DFPCL (E-5303 A/B) | TALOJA | 2 | BFW PREHEATE R | ASME | NEN (V) | SA-240 GR. 304 | 8 | SANDVIK 2RE10 | 1.65 | SANDVIK 2RE10 | 50+10 | SANDVIK 2RE10 | 8 | 750 | WELDED | 980 | 02/12/09 | LRA |
| 63 | 604.2 | TECHNIP KT INDIA (505-E-002) | HMEL | 1 | REDUCTIO N EXCHANGE R | ASME | AES (V) SINGL E PASS | SA-387 GR. 11 CL.2 | 14 | SA-213 T11 | 2.0 THK | SA-336 GR. F 11 CL.3 | 60 | SA-336 F11 CL.3 | 18 | 489 | WELDED + CONTACT EXPANSION | 4454 | UNDER FABRICATION | CEIL |



Geecy Engineering Pvt. Ltd.

SUPPLY LIST FOR HEAT EXCHANGERS AS PER TEMA

Date: 28/06/2012

| Sr. No. | Job No. | Client / Equipment No. | Plant / Project | Unit/ Qty. (Nos.) | Item Description | Code of Construction | TEMA Type | SHELL | | TUBE | | TUBE SHEET | | CHANNEL | | Shell Diameter / ID (mm) | Tube to tube sheet joint, Expanded / Welded Grooves/ Welded | Empty weight (kgs.) | Date of Supply | Inspection Authority |
|---------|---------|-----------------------------------|------------------------------|-------------------|--|----------------------|---------------------|---------------|----------|-------------------|----------|-------------------|----------|-----------------|----------|--------------------------|---|---------------------|-------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 64 | 604.3 | TECHNIPKT INDIA (505-E-005) | HMEL | 1 | BURNING FEED / EFFLUENT EXCHANGER | ASME | AES (V) SINGLE PASS | SA-240 GR.321 | 5 | SA-213 TP 321H | 1.6 | SA-965 GR. F 321H | 35 | SA-240 GR. 321H | 12 | 346 | WELDED + CONTACT EXPANSION | 1779 | UNDER FABRICATION | CEIL |
| 65 | 613 | EIL (EA-33210 A/B/C/D/E /F/G/H) | MRPL | 8 | MAIN FRACTIONATOR O/H CONDENSER | ASME | BEM (H) | SA-516 GR.70 | 20 | SA-179 | 2 | SA-266 CL.4 | 140 | SA-516 GR.60 | 16 | 2000 | EXPANSION IN TWO GROOVES | 152872 | UNDER FABRICATION | TUV |
| 66 | 616.1 | EPCL PORT HARCOURT, NIGERIA (E65) | ELEME PETROCHEMICALS COMPLEX | 1 | DEBUTANZER CONDENSER (TUBE BUNDLE) | ASME | --U | --- | --- | AS-179 | 25.4 | SA-266 CL.2 | 60THK | --- | --- | -- | WELDED + EXPANDED IN TWO GROOVES | 6646 | | LLOYDS |
| 67 | 616.2 | EPCL PORT HARCOURT, NIGERIA (E69) | ELEME PETROCHEMICALS COMPLEX | 1 | C4 HYDROGENATION AFTER COOLING (TUBE BUNDLE) | ASME | AES | --- | --- | AS-179 | 2.11 | SA-266 CL.2 | 93THK | --- | --- | -- | WELDED + EXPANDED IN TWO GROOVES | 8800 | 01/01/10 | LLOYDS |
| 68 | 616.3 | EPCL PORT HARCOURT, NIGERIA (E86) | ELEME PETROCHEMICALS COMPLEX | 1 | C4 FEED COOLER (TUBE BUNDLE) | ASME | AES | --- | --- | AS-179 | 2.11 | SA-266 CL.2 | 43THK | --- | --- | -- | WELDED + EXPANDED IN TWO GROOVES | 710 | | LLOYDS |
| 69 | 647.1 | KIRLOSKAR/ JSPL(O RISSA) | JSPL(O RISSA) | 2 | CONDENSER | ASME | BJ12M (H) | SA-516 GR.70 | 28 | SA-334 GR1 | 2.11 | SA-350 GR LF2 CL1 | 120 | SA-516 GR.70 | 25 | 7628 | STRENGTH WELD& LIGHT EXPANSION | 77231 | 27/012011 | BVIS |
| 70 | 647.2 | KIRLOSKAR/ JSPL(O RISSA) | JSPL(O RISSA) | 1 | RAW GAS CHILLER | ASME | BMK(H) | SA-516 GR.70 | 20 | SA-213 GR TP 316L | 1.65 | SA-336 GR L316L | 105 | SA-516 GR.70 | 36 | 3833 | STRENGTH WELD& LIGHT EXPANSION | 19980 | 27/012011 | BVIS |



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|---------|---------|------------------------|--------------------|-------------------|--------------------------|----------------------|-----------|-----------------|----------|----------------|----------|-------------------|----------|----------------|----------|--------------------------|---|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 71 | 647.3 | KIRLOSKAR/ | JSPL(O RISSA) | 1 | CO2 METHANOL INTERCOOLER | ASME | BKU(H) | SA-516 GR.70 | 20 | SA-334 GR3 | 2.11 | SA-350 GR LF3 CL1 | 120 | SA-516 GR.70 | 36 | 12391 | STRENGTH WELD& LIGHT EXPANSION | 111202 | 27/012011 | BVIS |
| 72 | 647.4 | KIRLOSKAR/ | JSPL(O RISSA) | 1 | H2S ABSORBER FEED COOLER | ASME | BKU(H) | SA-516 GR.70 | 22 | SA-334 GR3 | 2.11 | SA-350 GR LF3 CL1 | 130 | SA-516 GR.70 | 22 | 6038 | STRENGTH WELD& LIGHT EXPANSION | 20447 | 27/012011 | BVIS |
| 73 | 647.5 | KIRLOSKAR/ | JSPL(O RISSA) | 1 | FLASH METHANOL CHILLER | ASME | BKU(H) | SA-516 GR.70 | 28 | SA-334 GR3 | 2.11 | SA-350 GR LF3 CL1 | 140 | SA-516 GR.70 | 25 | 7942 | STRENGTH WELD& LIGHT EXPANSION | 39712 | 27/012011 | BVIS |
| 74 | 647.6 | KIRLOSKAR/ | JSPL(O RISSA) | 1 | HOT FLASH CHILLER | ASME | BKU(H) | SA-516 GR.70 | 18 | SA-334 GR3 | 2.11 | SA-350 GR LF3 CL1 | 100 | SA-516 GR.70 | 20 | 5397 | STRENGTH WELD& LIGHT EXPANSION | 9470 | 27/012011 | BVIS |
| 75 | 673.1 | UHDE (311-E-001) | EPPC | 1 | PROPANE HEATER | ASME | --- | SA-240 GR. 304L | 5 & 8 | SA-213 TP 304L | 2 | --- | --- | --- | --- | --- | --- | 9850 | 21/05/11 | TUV |
| 76 | 673.2 | UHDE (322-E-004) | EPPC | 1 | CHILLED WATER COOLER | ASME | BKU | SA-537 CL.1 | 12 & 14 | SA-334 GR. 6 | 2.11 | SA-350 LF3 CL.1 | 80 | SA-537 CL.1 | 12 | 775 / 1119 | STRENGTH WELD | 8030 | | TUV |
| 77 | 707 | BAYER THAILAND | BISPHE NOL-A PLANT | 1 | COLUME FEED PREHEATER | ASME | BEM (H) | SA-240 TP 316L | 10 | SA-240 TP 316L | 6 | SA-965 F316L | 65 | SA-240 TP 316L | 6 | 500 | WELDED + EXPANDED IN TWO GROOVES | 1311 | 15/03/12 | LLOYD S/ BAYER |



Geecy Engineering Pvt. Ltd.

SUPPLY LIST FOR HEAT EXCHANGERS AS PER TEMA

Date: 28/06/2012

| Sr. No. | Job No. | Client / Equipment No. | Plant / Project | Unit/ Qty. (Nos.) | Item Description | Code of Construction | TEMA Type | SHELL | | TUBE | | TUBE SHEET | | CHANNEL FLANGE | | Shell Diameter / ID (mm) | tube sheet joint, Expanded / Welded Grooves/ | Empty weight (kgs.) | Date of Supply | Inspection Authority |
|---------|---------|--|-----------------|-------------------|----------------------------------|---|-----------|------------------|----------|----------------|----------|---------------|----------|----------------|----------|--------------------------|--|---------------------|-------------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 78 | 703.1 | BAYER MATERIAL SCIENCE (V420 DS81 WA003) | DOR-TDI1 | 1 | KÜHLFALLE RUCKSTANDESKOLONNE. | ASME SEC VIII DIV 1,2010 EDITION +PED 97/27/EC MODULE 'G' | BEU (V) | SA-240 TYPE 316L | 8 | SA-213 TP 316L | 2 | SA-965 F 316L | 45 | SA-266 GR 4 | 80 | 200 | WELDED + CONTACT EXPANSION | 461 | UNDER FABRICATION | TUV SUD |
| 79 | 703.2 | BAYER MATERIAL SCIENCE (V420 DS82 WA003) | DOR-TDI1 | 1 | KÜHLFALLE STRIPPKOLONNE. | ASME SEC VIII DIV 1,2010 EDITION +PED 97/27/EC MODULE 'G' | BEU (V) | SA-240 TYPE 316L | 8 | SA-213 TP 316L | 2 | SA-965 F 316L | 45 | SA-266 GR 4 | 80 | 200 | WELDED + CONTACT EXPANSION | 461 | UNDER FABRICATION | TUV SUD |
| 80 | 703.3 | BAYER MATERIAL SCIENCE (V420 DS81 WA004) | DOR-TDI1 | 1 | AUFKONZENTRIERTER RÜCKSTAND. | ASME SEC VIII DIV 1,2010 EDITION +PED 97/27/EC MODULE 'G' | BKU (H) | SA-240 TYPE 316L | 8 | SA-213 TP 316L | 2 | SA-965 F 316L | 100 | SA-266 GR 4 | 144.5 | 1084 | WELDED + CONTACT EXPANSION | 6763 | UNDER FABRICATION | TUV SUD |
| 81 | 703.4 | BAYER MATERIAL SCIENCE (V420 DS82 WA001) | DOR-TDI1 | 1 | FALLFILMVERDAMPFER STRIPPKOLONNE | ASME SEC VIII DIV 1,2010 EDITION +PED 97/27/EC MODULE 'G' | BEM (V) | SA-516 GR.60 | 14 | SA-213 TP 316L | 2.53 | SA-965 F 316L | 100 | SA-965 F 316L | 100 | 800 | WELDED + CONTACT EXPANSION | 6800 | UNDER FABRICATION | TUV SUD |
| 82 | 703.4 | BAYER MATERIAL SCIENCE (V420 DS82 WA001) | DOR-TDI1 | 1 | FALLFILMVERDAMPFER STRIPPKOLONNE | ASME SEC VIII DIV 1,2010 EDITION +PED 97/27/EC MODULE 'G' | BEM (V) | SA-516 GR.60 | 14 | SA-213 TP 316L | 2.53 | SA-965 F 316L | 100 | SA-965 F 316L | 100 | 800 | WELDED + CONTACT EXPANSION | 6800 | UNDER FABRICATION | TUV SUD |
| 83 | 741.1 | GRAPHITE INDIA(V530-AB81-WA004) | DOR-TDI1 | 1 | HCL ABSORBER POST CONDENSER | ASME SEC VIII DIV 1,2010 EDITION UPTO AND INCLUDING 2011a ADDENDA +PED 97/27/EC FOR METALLIC & AD.MARCKBLATT 2000 | SPECIAL | SA-516 GR.70 | 12 | - | - | - | - | - | - | 945 | - | 5850 | UNDER FABRICATION | TUV SUD |



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Geecy Engineering Pvt. Ltd.

Date: 28/06/2012

| Sr. No. | Job No. | Client / Equipment No. | Plant / Project | Unit/ Qty. (Nos.) | Item Description | Code of Construction | TEMA Type | SHELL | | TUBE | | TUBE SHEET | | CHANNEL FLANGE | | Shell Diameter / ID (mm) | tube sheet joint, Expanded / Welded Grooves/ | Empty weight (kgs.) | Date of Supply | Inspection Authority |
|---------|---------|--|-----------------|-------------------|------------------------|---|-----------|--------------|----------|----------|----------|------------|----------|----------------|----------|--------------------------|--|---------------------|----------------|----------------------|
| | | | | | | | | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | Material | Thk (mm) | | | | | |
| 84 | 741.2 | BAYER MATERIAL SCIENCE (V530 AB81 WA001) | DOR-TDI1 | 1 | HCL ABSORBER CONDENSER | ASME SEC VIII DIV 1,2010 EDITION UPTO AND INCLUDING 2011a ADDENDA +PED 97/27/EC FOR METALLIC & AD.MARCKBLATT 2000 | SPECIAL | SA-516 GR.60 | 14 | - | - | - | - | - | 1419 | - | 16000 | UNDER FABRICATION | TUV SUD | |