

- NOTES:-**
1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METERS
 2. GRADE OF CONCRETE M20
 3. ALL REINFORCEMENTS ATR CTD BARS CONFORMING TO IS -1786
 4. ALL STRUCTURAL STEELS ARE CONFORMING TO IS 2062
 5. ENCASING TO BE DONE FOR MAIN AND GABLE COL. WITH MIN. REINFORCEMENTS
 6. THE STRUCTURAL ARRANGEMENT AND MEMBER SIZES SHOWN IN THIS DRAWING IS BASED ON PRELIMINARY ENGG. THESE MAY VARY AFTER DETAILED ENGG.
- LEGEND:**
- D - TEAK WOOD FLUSH DOOR - 1000mmX2100mm
 - W - WINDOW - 1200mmX1200mm
 - SSD - SLIDING STEEL DOOR
 - O - OPENING 5000mmX5000mm
 - J - JALLEY
 - D1 - GLAZED STEEL DOOR 12 HS 21

| TENDER PURPOSE | | UNIT II | |
|---|-------|--|--------------|
| TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT | | Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TRICHIRAPALLI - 620014 | |
| DATE | SCALE | WEIGHT (kg) | NO. OF PARTS |
| 02/08/2000 | C/M/F | | |
| DRAWING NO: U 01 | | 0-TP-CEG-01095 | |

E. CONNECTIONS:-

1. ALL FILLET SIZE OF THE WELD SHALL BE AS INDICATED IN THE APPROVED DRAWING, MINIMUM FILLET SIZE SHALL BE 6mm.
2. ALL MEMBERS SHALL BE WELDED TO THE GUSSETS FOR THE FULL CONTACT LENGTH AVAILABLE.
3. WELDING ELECTRODE, FILLER WIRE AND CONSUMABLE SHALL BE USED AS DETAILED BELOW

| a). SMAW | | | |
|--------------|-----------------------|---|---------------|
| SL.No | ELECTRODES | MANUFACTURER | |
| i. | E6013&E7018 | D&H Secheron | |
| ii. | E6013&E7018 | ESAB India Ltd. | |
| iii. | E6013&E7018 | Modi Arc Electrode Co. | |
| iv. | E6013&E7018 | D&H Welding Electrode(I)Ltd. | |
| v. | E6013&E7018 | Mantek Electrods (p) Ltd. | |
| vi. | E6013&E7018 | Ador welding Ltd. | |
| vii. | E6013&E7018 | Varun Electrodes Pvt.Ltd. | |
| b. SAW | | | |
| SL.No | WIRE | MANUFACTURER | |
| i. | AUTO Melt Grade A | Ador Welding | |
| ii. | MantekGrade-A. | Mantek wires | |
| iii. | Metaspool S1 Dia 4mm. | Precision Wires | |
| iv. | OK AutRod 12.08L. | ESAB India Ltd | |
| c. Flux | | | |
| SL.No | DESCRIPTION | MANUFACTURER | |
| i. | Super S41 | Super Elec inds | |
| ii. | Mantek-22. | Mantek Welding Flux Co. | |
| iii. | RMH Auto Weld Grade 1 | RMH Chemicals. | |
| iv. | SWP 40 T | Super Weld prod. | |
| d.GMAW (Co2) | | | |
| SL.No | ELECTRODES | MANUFACTURER | BRAND |
| i. | ER70S-6 Co2 WIRE | Ador Welding Ltd. | Automig-1 |
| ii. | ER70S-6 Co2 WIRE | ESAB India Ltd.,Chennai. | ESAB MW1 |
| iii. | ER70S-6 Co2 WIRE | Mantek Wiress | Mantek Mig |
| iv. | ER70S-6 Co2 WIRE | Nouveax Industries (P) Ltd., Kangayam. | Nouvarc. |
| v. | ER70S-6 Co2 WIRE | Voltrac Electrode Pvt.Ltd., Tirupathi | Autofil-6 |
| vi. | ER70S-6 Co2 WIRE | Varun Electrodes Pvt.Ltd., Panipet. | Prima Mig/Mag |

GENERAL NOTES:-

1. ALL DIMENSIONS ARE IN 'mm' & LEVELS ARE IN METERS. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED NO DIMENSIONS SHALL BE SCALED FROM THE DRAWING
2. THE CUTTING PLAN SHALL BE PREPARED BY THE FABRICATOR BEFORE TAKING UP ANY FABRICATION
3. ONLY AFTER OBTAINING APPROVAL FOR THE CUTTING PLAN IN WRITING, THE FABRICATOR SHALL COMMENCE THE FABRICATION.
4. ERECTION BOLTS SHALL NOT BE REMOVED EVEN AFTER COMPLETION OF WELDING.
5. PORTIONS OF THE STRUCTURAL STEEL MEMBERS TO BE EMBEDDED IN CONCRETE SHALL BE CEMENT WASHED.
6. SHAPES AND SIZES OF MEMBERS SHALL BE CHECKED BY FULL SCALE LAYOUT AND IF ANY DISCREPANCY IS NOTED IT SHALL BE BROUGHT TO THE NOTICE OF ENGINEER INCHARGE

A. MARKING:-

1. ALL FABRICATED ITEMS SHALL BE CLEARLY MARKED AS PER ERECTION MARKS SHOWN IN FABRICATION DRAWING.
2. ERECTION MARK OF EACH COMPONENTS SHALL BE PREFIXED WITH DRAWING NUMBER.

B. MATERIAL:-

1. ALL ROLLED SECTION AND PLATES (THICKNESS 20mm AND LESS) SHALL CONFORM TO E250A IS-2062-1992 PLATES. THICKNESS EXCEEDING 20mm AND ALSO PLATES USED FOR CRANE GIRDERS AND OTHER MEMBERS SUBJECTED TO DYNAMIC LOADS SHALL CONFORM TO E250B, E250C IS-2062-1992.
2. RAW MATERIAL SHALL BE TESTED FOR LAMINATION FOR THE THICKNESS MORE THAN 20mm.
3. PRE HEATING / POST WELD TREATMENT SHALL BE DONE AS PER STANDARD SPECIFICATION
4. ALL BOLTS FOR CLADDING RUNNERS SHALL BE 16mm DIAMETER. DIAMETER OF HOLES FOR PERMANENT BOLTS SHALL BE 1.5mm LARGER THAN THE BOLTS AND 3mm LARGER FOR ERECTION BOLTS.

5. ALL BLACK HEXAGONAL BOLTS, NUTS AND WASHER SHALL BE CONFORMING TO THE FOLLOWING IS STANDARD

- | | |
|-----------------------------|--------------------------------------|
| i. BLACK HEXAGONAL BOLTS, | IS 1363 -1984 Part-I (CLASS 5.6/5.8) |
| ii. BLACK HEX NUTS | IS 1363 -1984 Part-III |
| iii. Plain MS Washer | IS2016-1975 |
| iv. Taper Washer For Beams | IS 5274-1975 |
| v. Taper Washer For Channel | IS 5372-1975 |
| vi. Spring Washer | IS 3063-1964 |

C. FABRICATION:-

1. MAXIMUM SURFACE UNEVENNESS ON CONTACT SURFACE OF BASE PLATE AND CAP PLATE SHALL NOT EXCEED 0.5mm MAXIMUM GAP BETWEEN BEARING END OF COLUMN SHAFT AND BASE PLATE AT ANY PLACE SHALL NOT EXCEED 1mm. IF THIS IS ACHIEVED BY COLD SAWING AND GRINDING, MACHINING OF COLUMN END NEED NOT BE DONE.
2. FABRICATION, INSPECTION AND ERECTION OF STEEL STRUCTURES SHALL BE DONE IN ACCORDANCE WITH TECHNICAL SPECIFICATION AND SPECIAL INSTRUCTIONS IF ANY.
3. FILLET WELDS TERMINATING AT THE SIDES OR ENDS OF PARTS SHALL BE RETURNED AROUND THE CORNERS A DISTANCE OF NOT LESS THAN 25mm.
4. SPLICE LOCATION AND DETAILS OF MAJOR COMPONENTS LIKE COLUMN, CRANE GIRDER, ROOF GIRDER, TRUSS GIRDER ETC. ARE TO BE GOT APPROVED BY CIVIL DESIGNS.

D. WELDING:-


1. WELDING CODE OF PRACTICE PROCEDURES SPECIFICATION Etc. SHALL CONFORM TO AWS D-1.1(LATEST)- AND AS PER QCP ISSUED BY BHEL.
2. FULL PENETRATION BUTT WELDING SHALL BE DONE AT BASE PLATE CONNECTION & ALL SPLICES AS PER DRAWING
3. SUBMERGED ARC WELDING SHALL BE DONE FOR COLUMN/CRANE GIRDER FOR FLANGE TO WEB CONNECTION & FLANGE SPLICE AS PER DRAWING

F. PAINTING:-

1. ALL FABRICATED STEEL WORKS SHALL REQUIRE ONE COAT OF RED OXIDE PRIMER PAINT AND TWO COATS OF APPROVED SYNTHETIC ENAMEL PAINT OF APPROVED QUALITY.

G. INSPECTION:-

1. ALL FABRICATION AND STEEL STRUCTURES WILL BE INSPECTED BY THIRD PARTY INSPECTION AGENCY AS PER Q.C.P. ISSUED BY CIVIL DESIGNS OF BHEL.

| | | | | | | | | | | | | | |
|---|---------------------------|---|-------------|-----------------------|---------|-------------|----------------|----------------------------|---------------|-----------|------|------------|-----|
| <p>CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.</p> | | TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT | | | | | | SSTP & TITANIUM SHOP WORKS | | | | | |
| | |  Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014 | | | | | | PREP'D | J.Anandan | SIGNATURE | DATE | NO. OF VAR | |
| | | | | | | | | CHD | R.Palanikumar | | | | |
| | | | | | | | | APPD | K.Gunasekaran | | | | |
| DEPT | GRADE OF UNTOL. DIM C/M/F | SCALE | WEIGHT (Kg) | REF TO ASSY / OLD DWG | ITEM NO | No OF ITEMS | | | | | | | |
| TITLE | | | | | | CARD CODE | DRAWING NO : | | | | | | REV |
| GENERAL NOTES | | | | | | U 01 | 2-TP-CEG-01096 | | | | | | 00 |

| REV | DATE | DESCRIPTION | SIGN |
|-----|------|-------------|------|
| | | | |
| | | | |