

BHEL,R.C.PURAM,HYDERABAD
(M&S-P&C)

Equipment details of Cooling towers at 36/11

Details of existing RCC cooling tower –I

| SL.N O. | DESCRIPTION | DATA |
|------------|---|---|
| I | Tower -I | |
| 1 | Type of cooling tower | Induced draught RCC structure, counter flow |
| 2 | Number of cells per cooling tower | Two |
| 3 | Dimensions of each cell | |
| 4 | a) Length , metre | 5 |
| | b) Width, metre | 11 |
| | c) Height, metre (from cold water basin curb level to fan deck level) | 6.5 |
| 5 | Fans per cell | One |
| 6 | Arrangement of cells | Inline |
| 7 | Fan stack height , metre | 2.1 |
| 8 | Overall height (basin curb to top deck), metre | 6.5 |
| 9 | Overall dimensions of cooling tower, metre | 11 x 10 x 6.50 |
| 10 | Approximate basin dimensions, metre | 11 X 10 X 4.50 |
| 11 | Type of fill | For 2 cell : Asbestos fill 0.9 mtr. , hung type by means of wire & spacers |
| 12 | Site altitude | 100 |
| 13 | Circulating water flow rate per cooling tower(Cu.M/Hr.) | 1,500 |
| 14 | Circulating water flow rate per cell | 750 |
| 15 | Design hot water inlet temperature | 47 |
| 16 | Design Cold water outlet temperature | 34.5 |
| 17 | Design inlet Wet bulb temperature | 27 |
| 18 | Cooling range | 12.5 |
| 19 | Approach to design inlet wet bulb temperature | 7.5 |
| 20 | Design Relative humidity | 60% (assumed) |
| 21 | Hot water distribution details, outside and inside the cooling tower | Inside : MS header with PVC lateral distribution pipe and Polypropylene spray nozzles |
| 22 | Sprayer details | Down spray, Polypropylene |
| 23 | Drift eliminator details | asbestos |
| 24 | Fan details | Aluminum blades, Axial flow, 4.27 mtr. diameter |
| 25 | Motor details | 30 KW, 960 RPM |
| 26 | Gear box details | Reduction ratio, 5 :1 |

Details of existing SITS cooling tower –II

| SL.N | DESCRIPTION | UNIT |
|-----------|--|---|
| II | TOWER - II | |
| 1 | Manufacturer | SITS, Hyderabad. |
| 2 | No. of cells per cooling tower | Two (2) |
| 3 | Type of tower | Induced Draught, Counter Flow |
| 4 | Type of cell arrangement | Inline |
| 5 | No. of air inlets | 3 |
| 6 | Material of construction of basin and structure | RCC |
| 7 | Type of fill | For 2 cell : PVC Film flow type,0.9 mtr. , bottom supported |
| 8 | Location | Outdoor |
| 9 | Duty | Continuous |
| 10 | Site altitude | 100 m |
| 11 | Circulating water flow rate per cooling tower | 1500 m3/hr |
| 12 | Circulating water flow rate per cell | 750 m3/hr |
| 13 | Design hot water inlet temperature | 47 Degree centi. |
| 14 | Design Cold water outlet temperature | 34 Degree centi. |
| 15 | Design inlet Wet bulb temperature | 27 Degree centi. |
| 16 | Cooling range | 12.5 Degree centi. |
| 17 | Approach to design inlet wet bulb temperature | 7.5 Degree centi. |
| 18 | Design Relative humidity | 60% (assumed) |
| 19 | Hot water distribution details, outside and inside the cooling tower | Inside : MS header with PVC lateral distribution pipe and Polypropylene spray nozzles |
| 20 | Sprayer details | Down spray, Polypropylene |
| 21 | Drift eliminator details | PVC |
| | | |
| 22 | Fan details | FRP, Axial flow, 4.27 mtr. diameter |
| 23 | Motor details | 30 KW, 1470 RPM |
| 24 | Gear box details | Reduction ratio, 5 :1 |
| 25 | Cooling tower dimensions (Width x length x height from cold water basin curb level to top of fan deck) | 11 X 10 X 6.50 Mtr. |
| 26 | Fan stack Material of construction and height | For 2 cell : FRP and 2.10 mtr. |
| 27 | Cell dimensions(Width x length x height from cold water basin curb level to top of fan deck) | 11 X 5 X 6.50Mtr. |