

TECHNICAL SPECIFICATIONS
CAST IRON SURFACE PLATE , SIZE 12M * 9M

1.0 PURPOSE :

Cast iron surface plate shall be used as a precision reference for marking , lay out and inspection of Steam turbine components .

2.0 TECHNICAL SPECIFICATIONS :

- 2.1 Cast iron surface plate shall conform to IS:2285-1991 . It shall be made from plain grey iron castings conforming to grade FG:220 of IS:210-1978 . Material test certificates as required by the Indian standard shall be submitted along with the supply.
- 2.2 Overall assembled size shall be 12m * 9m consisting of 18 nos. of individual surface plates of size 3m * 2m joined with interconnecting elements.
- 2.3 Top working surface of each surface plate shall be provided with machined grooves in a grid of 500mm * 500mm .
- 2.4 Suitable number of cored holes on the peripheral ribbings shall be provided for lifting of each surface plate . Provision shall also be made for covering of the cored holes when not in use.
- 2.5 Each plate shall have suitable number of leveling screws mounted on M.S.steel fabricated stands. Fabricated stands will be grouted on the shop floor . Leveling screws shall be firmly bolted on the fabricated stands . Number of leveling screws to be informed by the supplier .
- 2.6 Overall height of the assembled surface plate shall be 750^{± 25} mm from average shop floor level. However total height of the fabricated stands and leveling screws should be sufficient to enable easy entry of the personnel underneath the surface plate for leveling , cleaning etc. Fabricated stands shall be grouted inside a pit made to accommodate the total required height. Supplier shall inform the total height and drawings for civil works to be submitted accordingly.
- 2.7 Load bearing capacity of each individual surface plate of size 3m * 2m shall be specified by the supplier.
- 2.8 The surface plates shall be finish machined on their top working surface as well as four sides at their periphery . Top surface may be hand scrapped to achieve the specified flatness accuracy.
- 2.9 THE FLATNESS ACCURACY OF INDIVIDUAL SURFACE PLATE OF 3M * 2M SIZE SHALL BE WITHIN 0.04 MM AND THE OVERALL ACCURACY OF THE ASSEMBLED PLATE OF SIZE 12M * 9M SHALL BE WITHIN 0.50 MM .
 Inspection / Calibration certificates with traceability shall be furnished by the supplier along with the Surface plates.
- 2.10 Unmachined exterior surfaces at the periphery of the castings leveling screws & fabricated stands shall be painted with Green enamel paint . Interior surfaces of the castings shall be painted with red oxide primer.
- 2.11 Overall dimensions and Foundation details shall be informed by the Supplier. Civil work as per the details given by the supplier shall be done by BHEL.

- 2.12 Supplier shall mention and explain in detail , the method to be adopted for checking and recording the flatness accuracy during manufacture , during pre-despatch inspection by BHEL at their works and during commissioning at BHEL.
- 2.13 To facilitate proper evaluation of the offer , Sketches / Drawings / Catalogues etc. shall be submitted by the supplier .

3.0 PRE-DESPATCH INSPECTION , COMMISSIONING AND ACCEPTANCE :

- 3.1 Provisional acceptance of the surface plate shall be made by BHEL at supplier's work prior to despatch . Test certificates , Specification compliance and flatness accuracies of the individual surface plates shall be checked and verified .
- 3.2 Final acceptance shall be done after successful installation and commissioning at BHEL . Supplier shall take full responsibility for carrying out installation & assembly of individual surface plates to achieve the overall size of the Surface plate within specified flatness accuracy.

4.0 GUARANTEE :

Supplier shall provide full and complete Warranty / Guarantee for Two years trouble free performance after successful commissioning .

5.0 QUALIFYING CONDITIONS :

- 5.1 The supplier should be a reputed original Cast iron surface plates manufacturer .
- 5.2 The supplier should have experience of manufacturing similar size Surface plates and should provide reference list of customers to whom surface plates of similar specification have been supplied in the past ten years, mentioning contact person of the customer, flatness accuracies achieved & year of supply .