

BHARAT HEAVY ELECTRICAL LIMITED, BHOPAL

Specification for Test Area Bed plates

1. Introduction :

The bedplates are required for supporting of the jobs which are under testing. The jobs are various sizes of finally assembled electric motors, which are required to be tested at full load, at over speed RPM etc.

2. Operations to be done:

Clamping of the electric motors on the bed plate.

Various electrical tests such as type test , routine tests

Over-speed test

Full load test of the motor

Assembly of electrical large sized guide apparatus .Butterfly valves and spherical valves.

3. Specifications:

3.1	Total area to be covered	8 m x 5 m
3.2	Uniformly Distributed Load Carrying Capacity to be verified by load /stress analysis.	25 Tonnes /m ²
3.3	Surface flatness accuracy for individual floor plates	120 microns
3.4	Dimensions of individual plate Height Plate thickness This dimension change is allowed subject to meeting of overall area to be covered and meeting other specificational points	4 m x 2.5 m (Nominal) 350 mm To be specified by the supplier
3.5	Size of T slots along the length of the plates Nominal pitch of the T slots	36 H 12, IS:2013 pitch 250 mm, +/- 1 mm
3.6	Accuracy (surface Flatness) DIN -876 (border zone of 20 mm excluded from accuracy)	Grade B within 0.1 mm
3.7	Surface Finish	Manual peripheral surface Grinder/ hand scrapped / finish machined

3.8	Material	FG – 220 IS : 210 Min. 160 BHN, UTS 220 N / mm ²
3.9	Plate Leveling & clamping elements (IS 10602, Type: A) per individual size of floor plate	15 Nos / plate
3.10	Final flatness over entire area of 8 m x 5 m after full commissioning	Within 200 microns

4. Technical details :

- Pocket covers (removable type) shall be provided to prevent ingress of chips and other loose materials falling into the pockets.
- The surface flatness accuracy of each floor plate shall be checked using a straight edge of suitable accuracy and with traceability and a set of feeler gauges after leveling of the floor plate.
- A border zone of 20 mm width from the edges of plate, T – slots , holes or cored openings on the top working surface shall be excluded from the requirement of surface flatness accuracy provided no points, within any of the border zone , of surface flatness project higher than the remainder of the working surface of the floor plate.
- Surface finish – finish machined on top and on periphery of the floor plate .
Top working surface will be either rough ground through peripheral manual surface grinding machine or hand scrapped or finish machined, as may be required to achieved the specified surface flatness accuracy .
- Tensile test results shall be the basis of grade of casting. Working surface hardness shall be checked by “ Poldi” type hardness tester by comparison. Method.

5. Scope of supply :

- a. Complete set of floor plates to cover the area of 8 M x 5 M . (4 nos - 4 m x 2.5 m)
- b. Plate leveling and clamping elements in quantity as deemed necessary by the supplier to guarantee proper leveling (grade B) and durability.
- c. Details of foundation requirement for erection and commissioning (Civil works shall be under BHEL scope).

- d. Erection, leveling, commissioning of the bed plate and demonstration of flatness
- e. 4 sets of dwgs and other documentation of checking methods etc

6. Pre-despatch Inspection:

The pre-despatch inspection shall be carried out at suppliers works for dimensional accuracy , surface flatness etc. Material test certificate from recognized and approved testing laboratory should be furnished.

7. Packing :

Inland top cover wooden packing to protect top working surface .

8. Civil Foundation :

Civil Foundation Design dwg is to be supplied by the supplier. BHEL will do the civil foundation work.

9. Erection , Commissioning and proving :

Erection, leveling and alignment of bed plates shall be done by supplier .

Supplier to demonstrate the accuracy of bed plate finally before handing over.

BHEL will provide help of crane and slinger.

10. Guarantee:

12 months from date of commissioning and acceptance.