

FABRICATION SUPPLY AND INSTALLATION OF CAST IRON BED PLATE

Proposed Use of Bed Plate:

This Cast Iron Bed Plate (1500 x 1500 x 250 mm) made from one-piece casting shall be employed in Composites Industry. This item shall be used for structural testing of composites hardware. The test hardware and fixtures shall be mounted on the bed plate. The test will be performed both in ambient and at high temperatures. During high temp tests, the test article will be heated up to a max. of 500DegC.

Specifications and conditions for Design, fabrication, Supply and Installation of the Bed Plate is depicted in the following sections.

SPECIFICATION		
SL NO	DESCRIPTION	SPECIFICATION
1.	Material	<ul style="list-style-type: none">Flask Cooled Stress Relieved Plain Gray Cast Iron CastingMaterial Grade: FG:200 as per IS:210Hardness : 160 HB minimum
2.	Construction	Cored and Ribbed construction
3.	Nominal Size [LXWXH]	1500 x 1500 x 250mm
4.	Top surface thickness - approximate	30mm
5.	T-slots details	Size 18H12 mm as per IS 2013:1995 at center distance of 200 mm along and across the length with accuracy of ± 0.5 mm
6.	Flatness accuracy	Grade - 3 (within 100 microns) as per DIN 876
7.	Uniformly Distributed Static Load Bearing Capacity	5T/m ²
8.	Stress relieving	Casting has to be stress relieved after machining.
9.	Support	Stand having height of 1000 mm with adjustable jacks/screws.
10.	T-Nuts	Size 18-M12 to suit the bed plate, 30Nos

TERMS AND CONDITIONS

A. DESIGN

1. 3D Solid model and Detailed engineering drawing of the bedplate with sectional views showing T-Slot dimensions, interconnections, anchoring points etc. to be submitted by the party. Only after approval and confirmation from VSSC, the supplier shall start the fabrication of the Bed Plate.
1. The Bed plate shall be designed to withstand handling loads for self-weight with sufficient margins as per standard practices.
2. Deflection of the working surface of the plate when resting on the identified support points shall result in flatness accuracy within 500 microns.
3. Design shall be optimized to result the minimum weight possible without compromising stiffness, strength and accuracy.
4. Suitable number of cored holes on the peripheral ribs shall be provided for lifting the bedplate.
5. Plate shall be supported with sufficient number of adjustable Stand having height of 1000 mm with adjustable jacks/screws.

B. CASTING

1. The bed plate shall be Cast in a single pour. The chemical composition of the melt shall be monitored and the report of the same shall be provided.
2. The Test Specimens (Minimum two numbers) for Hardness Test, Tensile Test and Compression Test evaluation also shall be Cast along with the bed Plate.
3. Test Report of Hardness Test, Tensile Test and Compression Test on the Casting Specimens shall be furnished. The support conditions employed for Tests shall be clearly shown through drawing/figures.
4. The bed plate shall be designed with sufficient stiffness to sustain minimum/negligible deformation under the temperature up to 200 deg Celsius.
5. The bed plate shall be free from inclusions, blow holes & cracks.
6. The bed plate shall be stress relieved as per standard practices.

C. MACHINING

1. Working surface of the bed plate shall be machined, stress relieved and hand scrapped to accomplish the specified flatness and surface finish.
2. Other areas of the bed plate shall be machined to obtain geometry.

D. TESTING INSPECTION AND ACCEPTANCE:

1. The finished surface shall be free of tool marks, blow holes, cracks, fillings, repair patches, inclusions & scratches. 100% DPU, UT & VT tests shall be done. Report of the same to be given.
2. Surface finish shall be inspected to ensure compliance with specification. Test report of the same to be furnished.
3. Hardness and tensile strength testing shall be done on cast specimens. Test report of the same to be furnished.
4. Pre delivery inspection (PDI) of the item will be performed at Vendor's work site by VSSC Personnel. Party shall provide all inspection reports and test reports / certificates mentioned in clause nos. D- 1,2 & 3 during PDI. VT will be performed on the item during PDI.
5. Vendor shall demonstrate the assembly of adjustable stands with the bed plate during PDI.
6. Party needs to incorporate all the actions identified during PDI and obtain clearance from VSSC before dispatch of the item.
7. Final acceptance shall be done after installation at VSSC.

E. PACKING & SHIPMENT

1. Item shall be dispatched only after obtaining PDI clearance from VSSC.
2. The working surface shall be protected with appropriate packing material during handling, storage and transportation.
3. Item shall be packed in road-worthy wooden container. Proper handling points to be given for movement & unloading.

F. INSTALLATION

1. Installation at CMSE, VSSC, Trivandrum is at Party's scope.
2. Civil work requirement for installation if any along with shall be communicated minimum 60 working days in advance mentioning the schedule and work content.
3. Detailed foundation layout to be submitted along with the same if required.
4. Necessary resources for installation such as manpower, tools, measuring instruments and accessories to be arranged by the party.
5. Overall flatness /level accuracy after installation shall be less than 500µm.

G. WARRANTY

1. TWELVE (12) Month Warranty from the date of installation against any manufacturing defects or defective material is observed during normal use of the product.

H. QUALIFYING CONDITIONS

1. The supplier shall be a reputed original Cast Iron Bed Plates manufacturer.
2. The supplier shall have experience of manufacturing similar size Bed plates and shall provide reference list of customers to whom Bed plates of similar specification have been supplied in the past five years, mentioning details of the customer,
3. To facilitate proper evaluation of the offer, Sketches / Drawings / Catalogues etc. shall be submitted by the supplier.
4. The supplier must provide compliance statement of each section of this annexure with support material like catalogue, standards and drawing etc.
