



**BHARAT HEAVY ELECTRICAL LIMITED**

Indent No:	20161616
Enquiry No. :	
Due Date :	
Supplier No.:	
Specification Rev. No :	
Rev. Date:	

UNIT'S ADDRESS: HEEP, BHEL, Haridwar

UNIT'S PHONE NO.:

**SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR**

**CAST IRON BED PLATES WITH T SLOT GROOVES ALONG WITH ANCHORING BOLTS AND JACKING SCREWS**

**NOTE:-**

1. Vendor must submit complete information against clause no. 11 (Qualifying Conditions). The offer meeting this clause would only be processed.
2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.
3. The offer and all documents enclosed with offer should be in English language only.
4. All dimensions are in mm unless otherwise stated.

**SCOPE : SUPPLY, ERECTION & COMMISSIONING OF CAST IRON BED PLATES, SIZE 3000 MM X 1500 MM X 200 MM- 2 nos & 3000 x 500 x200 MM- 1NO AS SPECIFIED BELOW**

**SCOPE: SUPPLY, ERECTION & COMMISSIONING OF CAST IRON BED PLATES**

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
1	<b>PURPOSE:</b> Bed plates are required for assembly & clamping of various components of fabricated assemblies.	Vendor to Confirm			

*Abhinav*

*Rejith*

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SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
<b>2</b>	<b>SPECIFICATION:</b>				
2.1	Cast iron bed plates shall conform to IS:10602-1983/reaffirmed-2005, Grade-II. It shall be made from plain grey iron castings conforming to grade FG:200 of IS:210-1993. Min. tensile strength 200MPa & Brinell Hardness 160-220HBW. Material test certificates as required by the Indian Standard shall be submitted along with the supply.	Vendor to Confirm			
2.2	Individual Bed plate size -200mm x 1500mm x 3000mm 22H12 -II IS:10602- 2nos & 200mm x 500mm x 3000mm- 22H12 & 42H12 -II IS:10602-1no. Levelling arrangement and joining of floor plates as per Type A of Appendix A of same IS.	Vendor to Confirm			
2.3	Total No. of bed plates: 03	Vendor to Confirm			
2.4	Above mentioned bed plates will be used for extension of existing bed plate at BHEL works. Existing size of bed plate at BHEL works is 7.5 M x 3M. Each bed plate of size 1500 x 3000mm will be joined on opposite ends of existing bed plate at 7.5 M side making its total length of 10.5 M. Bed plate size 500 x 3000mm will be joined at one end of existing bed plate at 3 M side making its total width of 3.5 M at one end only.. For details, please refer layout of bed plates at Annexure-I.	Vendor to Confirm			
2.5	Minimum load bearing capacity should be 5 TON/ square metre	Vendor to Specify			
2.6	Pitch distance of T-slots of bed plates 1500 x 3000mm shall be 375±0.8 as per IS 2013: 1995/reaffirmed-2005. End T slots shall be at 187.5 mm from the edges. T-slots will be along the length of the bed plate. However, T-slots of bed plate size 500 x 3000mm will be as per enclosed layout at Annexure-I to suit T-slot of matching bed plates.	Vendor to Confirm			
2.7	General Tolerance shall be as per as per IS:2102 (part 1):1993,/reaffirmed-2003 "Medium"	Vendor to Confirm			
2.8	Unspecified as cast dimensional tolerances shall be as per IS:5519: 1979, reaffirmed 2005, class II	Vendor to Confirm			
2.9	Casting shall be sound and free from any defects, blow holes, cracks etc. NDT to be used to ensure surface and sub surface defect.	Vendor to Confirm			
2.10	No welding on any casting defect will be allowed at any stage of manufacturing.	Vendor to Confirm			
2.11	Cast surfaces shall be fetteled, shot blasted and dressed.	Vendor to Confirm			
2.12	The bed plates shall be marked at an appropriate place with designation and the manufacturer's name and trade-mark.	Vendor to Confirm			

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SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
2.13	To facilitate proper evaluation of the offer, Sketches / Drawings / Catalogues etc. showing all details (of the offered bed plate) shall be submitted by the vendor.	Vendor to Specify			
2.14	No defects shall reveal after finish machining of the bed plate.	Vendor to note			
3	<b>Flatness Accuracy</b>				
3.1	The flatness accuracy of each bed plate shall be within value as per grade-II, IS:10602. Accuracy shall be checked using precision calibrated straight edge and feeler gauges linearly anywhere on the working surface during manufacture and during pre-dispatch inspection by BHEL at their works. Inspection certificates with traceability shall be furnished by the vendor along with the bed plates.	Vendor to Confirm			
3.2	A border zone of 20 mm width from the edges of plate, T-slots, holes or cored opening on the top working surface shall be excluded from the requirement of surface flatness accuracy provided no points within any of the border zone shall project higher than the remainder of the working surface of the floor plate.	Vendor to Confirm			
4	<b>CONSTRUCTION:</b>				
4.1	Details of wall thickness, ribbing pattern, levelling pockets and method to join the plates shall be informed by the vendor. Drawing of finished floor plate shall be prepared and submitted by vendor alongwith the offer.	Vendor to Specify			
4.2	For bed plate of size 1500 x 3000mm, 12 nos. top accessed holes (Ref Table-1 of IS:10602) for anchoring and levelling shall be provided. For bed plate of size 500 x 3000mm, 4 nos. top accessed holes for anchoring and levelling shall be provided. The access holes for levelling shall be closed using heavy covers with rubber O rings to avoid entry of coolants, dust, chips etc. into the pockets.	Vendor to Confirm			
4.3	The bed 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. The cast iron bed plates shall be free from cracks, burrs, pits and other defects.	Vendor to Confirm			
4.5	All non machined surfaces shall be enamel painted. All machined surfaces shall be covered with good quality solvent dissolvable anti rust compound.	Vendor to specify and confirm			
4.6	There should a suitable provision of pouring concrete at the time of grouting of foundation bolts of bed plates. Same should be mentioned in the drawing & submitted alongwith the offer.				
5	<b>LEVELING &amp; ANCHORING SYSTEM</b>				

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SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
5.1	Levelling arrangement of floor plates as per Type A of Appendix A of IS:10602, 1983/2005. Details of joining slot of bed plates will be as per appendix A of IS 10602. However, there is no slot at joining edge of existing bed plates at BHEL works which will be made during erection by mutually agreed method by supplier & BHEL. All jacks, supports, fasteners, clamping elements etc. required for grouting, levelling and joining of each plate on all the four sides, shall be specified and included in the offer but quoted	Vendor to Confirm			
6.0	Foundation details along with dimensioned drawing shall be submitted by the vendor within one month after placement of purchase order. Civil work as per the details given by the vendor shall be done by BHEL under supervision of vendor. Soil condition at BHEL, Haridwar is mentioned below :	Vendor to confirm & note			
a)	Soil strata : Silty sand up to 2.5 meter depth				
b)	Average density of soil = 1.8 T/cubic m				
c)	Angle of internal friction = 35° (up to 3.0 m depth)				
d)	Coefficient of elastic uniform compression "Cu" = 3.0 Kg/cubic cm (at 7m depth for 10sq.m base area and 1.0 Kg/sq.cm confining pressure)				
e)	Bearing capacity at 1.5 meter depth = 10T/sq.m				
f)	Water table = 25 meter below ground level				
7	<b>INSPECTION</b>				
7.1	<b>Pre-Dispatch Inspection:</b> Provisional acceptance of the Bed plates shall be made by BHEL at vendor's work prior to dispatch. Test certificates, Specification compliance and flatness accuracies of the individual bed plates shall be checked and verified.	Vendor to confirm			
8	<b>PACKING:</b> Bed plate (s) shall be supplied in suitable packing (s) to avoid damage during handling, transportation and storage.	Vendor to confirm			
9	<b>ERECTION &amp; COMMISSIONING</b>				
9.1	Supplier to take full responsibility for carrying out the erection. Service requirement like crane/ helping personnel/ power shall be provided by BHEL but should be informed by supplier in advance.	Vendor to Confirm			

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SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
9.2	Vendor will carry out erection of bed plates with existing bed plates at BHEL works as mentioned at clause 2.4 of specification. Vendor will match flatness of supplied bed plates with existing bed plates at BHEL works to the best extent possible. Flatness should be mutually agreed to the BHEL & supplier.				
9.3	Tools, instruments and other necessary equipment required to carry out all above activities should be brought by the supplier.	Vendor to Confirm			
10.0	<b>WARRANTEE :</b>				
	Vendor shall provide full and complete warrantee for two years trouble free performance after successful commissioning.	Vendor to confirm			
11.0	<b>QUALIFYING CONDITIONS :</b>				
11.1	The vendor should have experience of manufacturing same /nearly similar size Bed plates and should provide reference list of customers to whom bed plates of same / nearly similar sizes have been supplied in the past five years, mentioning contact person of the customer, broad specification, flatness accuracies achieved & year of supply. BHEL reserves the right to verify the references of the customer submitted by the vendor alongwith the offer. Note: Items like surface plate/sole plate/box support plate will not be consider as bed plate.	Vendor to confirm & submit			
12	<b>POINT WISE CONFIRMATION :</b>				
	Vendor should confirm /clarify point wise (All the points) as per specification at the first instance in the offer.	Vendor to note			
13	<b>GENERAL : The vendor should submit the following information:</b>				
13.1	Weight of the bed plate.	Vendor to specify			

Bajaj  
 17-6-16  
 (BS Am) AGN-47  
 Abhishek  
 15/06/16  
 (Abhishek Sawastan)  
 Engr, WT

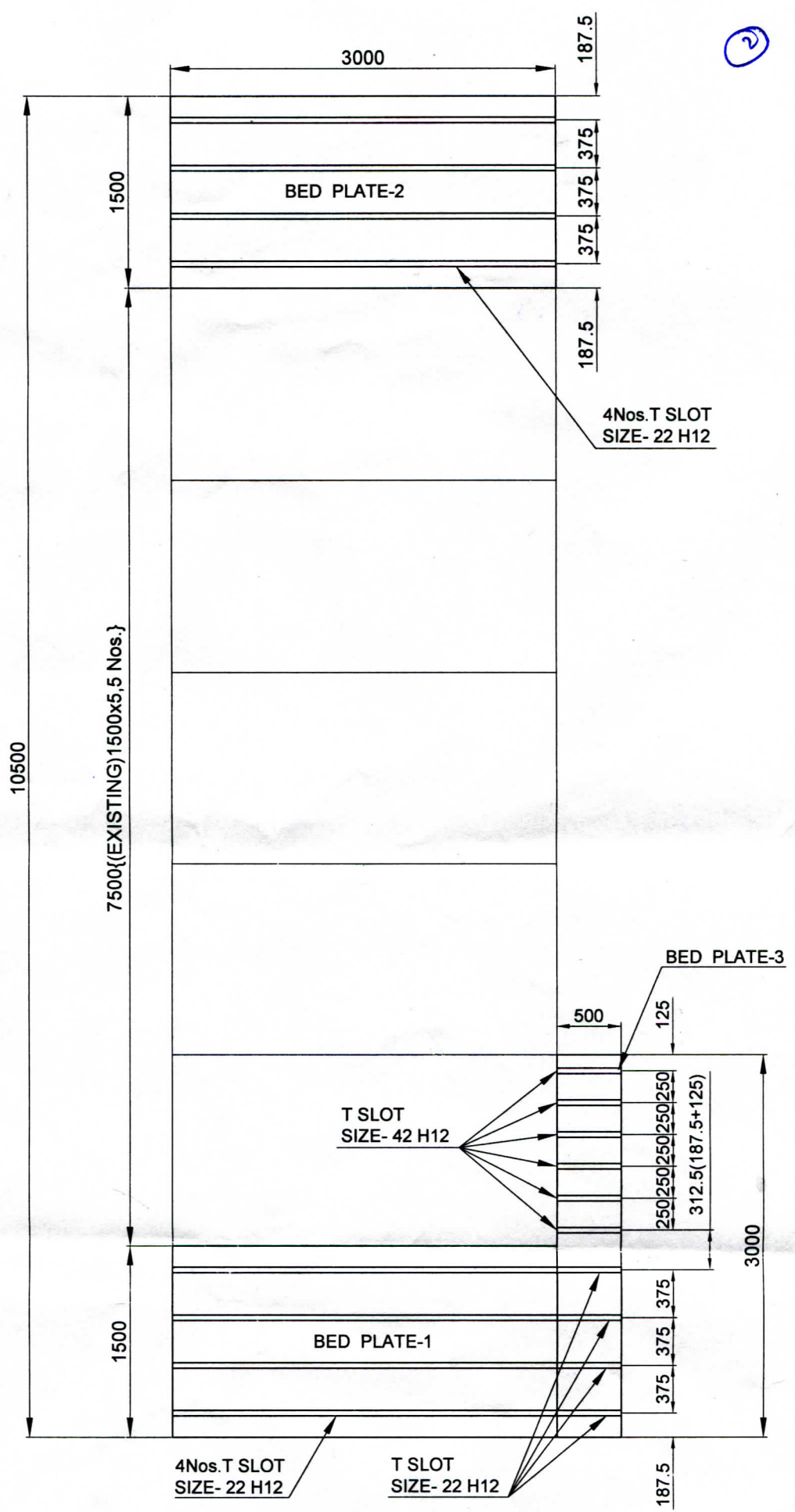
  
 17/6/16

Rajesh  
 15/6/16  
 (Rajesh Ramam Kant)  
 Sr. Eng. BK-2

  
 15/06/16  
 (Smt. Prakash)  
 Sr. Engr. (Gen. Res/Gen)

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*Prakash*  
15/6/16  
(R.P. Kant  
Sr. Eng  
BK-22)

*Abhinav*  
(5106716)  
(Abhinav Srivastava)  
Engr. WT

*(Signature)*  
15/06/16  
(Smt. Ravi)

ALL DIMENSION ARE IN MM.  
EXISTING BED PLATE-1500x3000 = 5 Nos.  
PROPOSED BED PLATE- 1500x3000x200= 2 Nos.  
- 3000x500x200 = 1 No.