



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT

<b>TITLE</b> <b>ELECTRO FORGED FLOOR GRILLS AS PER</b> <b>ATTACHED DRAWING</b>	Phone: <b>+91 431 2577897</b> Fax : <b>+91 431 252 0719</b> Email : <b>sachinsaini@bheltry.co.in</b>
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	<b>Reference Number:</b> <b>Enquiry 1801301268/13</b>	<b>Enquiry Date:</b> <b>30.08.2013</b>	<b>Due date for submission of</b> <b>quotation: 11.10.2013</b>
You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order			

**BHEL/Trichy is looking for empanelment of new vendors for supply of "Electro Forged Floor Grills as per our attached drawing"**

BHEL commercial terms & conditions with Price Bid formats and all annexure can be downloaded from BHEL web site <a href="http://www.bhel.com">http://www.bhel.com</a> or from the Government tender website <a href="http://tenders.gov.in">http://tenders.gov.in</a> (public sector units) Bharath Heavy Electricals Limited) under enquiry reference "XXXXXXXXXX "	
Tenders should reach us before 14:00 hours on the due date Technical bid will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.	Yours faithfully, For <b>Bharat Heavy Electricals Limited</b>  <b>AGM / MM / BOI</b>

	<b>MANUFACTURER'S NAME &amp; ADDRESS</b> BHEL: TIRUCHIRAPPALLI		<b>STANDARD QUALITY PLAN</b>					QP NO.: CQP 4731 REV.NO.00 DATE: 21/06/2012 PAGE: 1 OF 1					
	APPROVED SUB-CONTRACTOR		ITEM: ELECTROFORGE FLOOR GRILLS & STEP TREADS										
			SUB-SYSTEM : Steam Generator and Auxiliaries,										
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	D*	M	C	N	11

<b>1.0 RAW MATERIAL:</b>												
1.1	Bearing Bar. Square Twisted Bar Chequered Plate & other Support plates	Chemical Properties Mechanical Properties Physical Properties	B	Verification of Record	100%	As per BHEL Purchase order(PO)/ BHEL drawing/Material Specification//Laboratory test report./ Test certificate..	MTC	√	P	V	V	Witness of raw material for BHEL Purchase order requirement by BHEL/BHEL AIA. Refer Note-1
			B	Lab analysis	1 No per / PO		MTC	√	P	W	W	
			B	Visual, Dimensions Straightness Surface finish	At random		IR	√	P	W	W	
<b>2.0 IN PROCESS CONTROL:</b>												
2.1	Checks on EF weld machines	Weld parameters, Weld quality Straightness of bars Mesh size and other Dimensions of grating	B	Machine setting Measurement & Visual checks. (Projection & Fusion of weld)	6 times per Shift	WPS / PQR(ASME Sec-I) / BHEL Drawing	IR./ Log book	√	P	W	V	Square twisted bar welding shall be properly fused with Bearing bar.
		Weld Strength	B	Load test	Once ** per Shift	By applying 20Kg Pull load on weld joint.	Log book	√	P	W	V	** Random
2.2	Pull out test on EF Weld. And Macro Etch test	Strength test	B	Lab test	1 No per / PO	Manufacturers practice	LTC	√	P	W	W	Shall be carried out in a NABL appd.lab./ Manufacturers .own lab.
2.3	Manual welds in Step treads	Weld parameters, Weld Size & quality	B	Visual inspection for weld defects	100%	WPS / PQR(ASME Sec-I) / AWS D 1.1/ BHEL Drawing /Free from defects	Log book	√	P	W	V	
2.4	Dimensions	Physical	B	Measurement	100%	As per BHEL Purchase order & BHEL drawing	DR	√	P	W	V#	#Witness by BHEL AIA - 2%/ Per size/ PO.
<b>3.0 TESTS</b>												
3.1	Deflection Load test (Before galvanizing)	Physical / Dial gauge	B	Measurement	1No./ Per size/ PO.	BHEL Purchase order/ BHELAppd Drawing.	IR	√	P	W	W	Refer Note: 2
3.2	Galvanizing	1.Visual 2.Mass of zinc 3.Adhesion 4.Preece Test 5.Coating Thickness	B	Visual, Lab test Measurement	As per Standard IS2629, IS 4759, IS2633	As per BHEL Purchase order, BHEL drawing.	Log Book, IR	√	P	W	V*	* Witness of testing on One sample per PO identified by BHEL / BHEL AIA.
4.0	<b>PACKING, CRATING AND IDENTIFICATION</b>	Bundling / Identification /Protection	B	Visual	100%	Shall be tied with steel strip/Compact packing BHEL PO.No & Item No shall be stenciled.	IR		P	V	V	

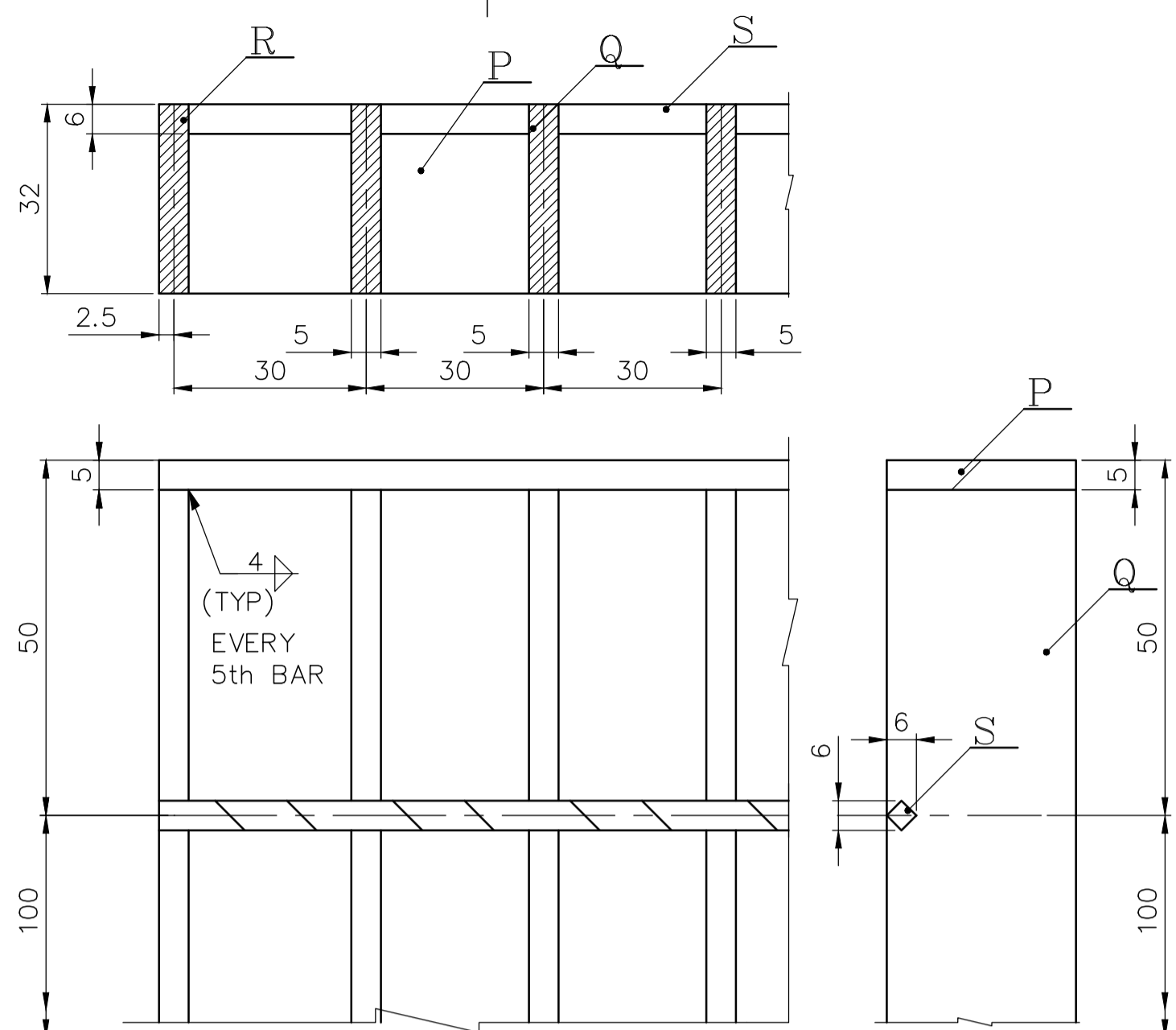
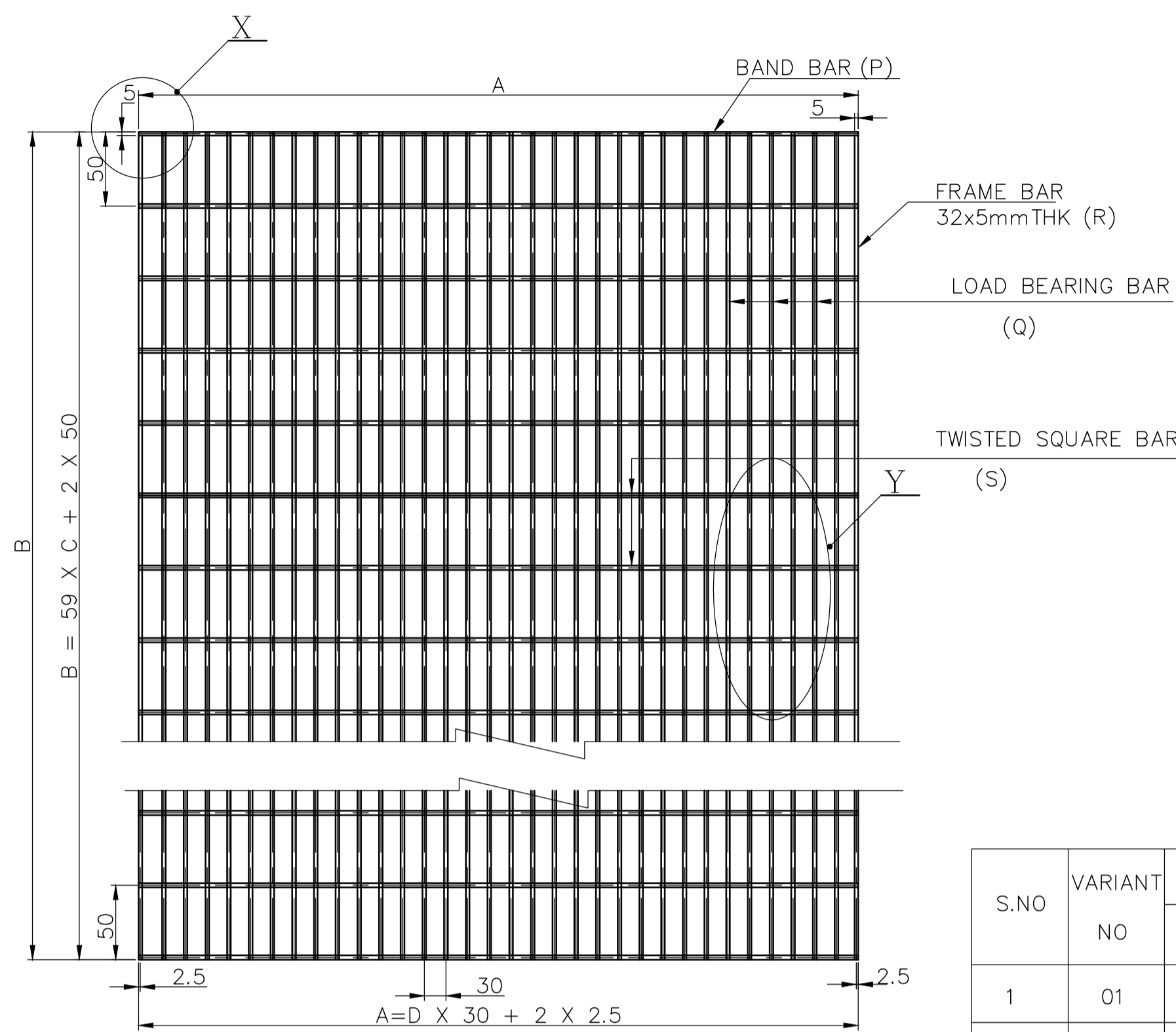
**LEGEND:**

J.Nanthini 21/06/2012 J.NANTHINI	 21/6/12 V.KALYANARAMAN	<b>Note:</b> (1) Samples shall be selected by BHEL/BHEL AIA for the offered inspection lot. Testing shall be done in a NABL approved lab / Suppliers own lab in the presence of BHEL/BHEL AIA. (2) Deflection shall be measured with a dial gauge by applying a Uniformly Distributed Load-1000Kg.per Sq. meter. Floor Grill shall be placed on two vertical supports-1200mm. apart. Deflection=1200/325 = 3.69mm.
PREPARED	APPROVED	<b>Legend:</b> * Records, indentified with "Tick" (√) shall be essentially included by SUPPLIER in QA documentation. ** M: Manufacturer
SIGNATURE		C: MANUFACTURERS ' QC N: BHEL / BHEL AIA P: PERFORM. W: witness. V: verification , CHP: customer shall identify in column N "N" AS 'W" CLASS : A - CRITICAL ; B - MAJOR ; C - MINOR . MTC: Mill test certificate. LTC: Lab test certificate. IR: Inspection Report. DR: Dimension Report.

1-35-811-02525

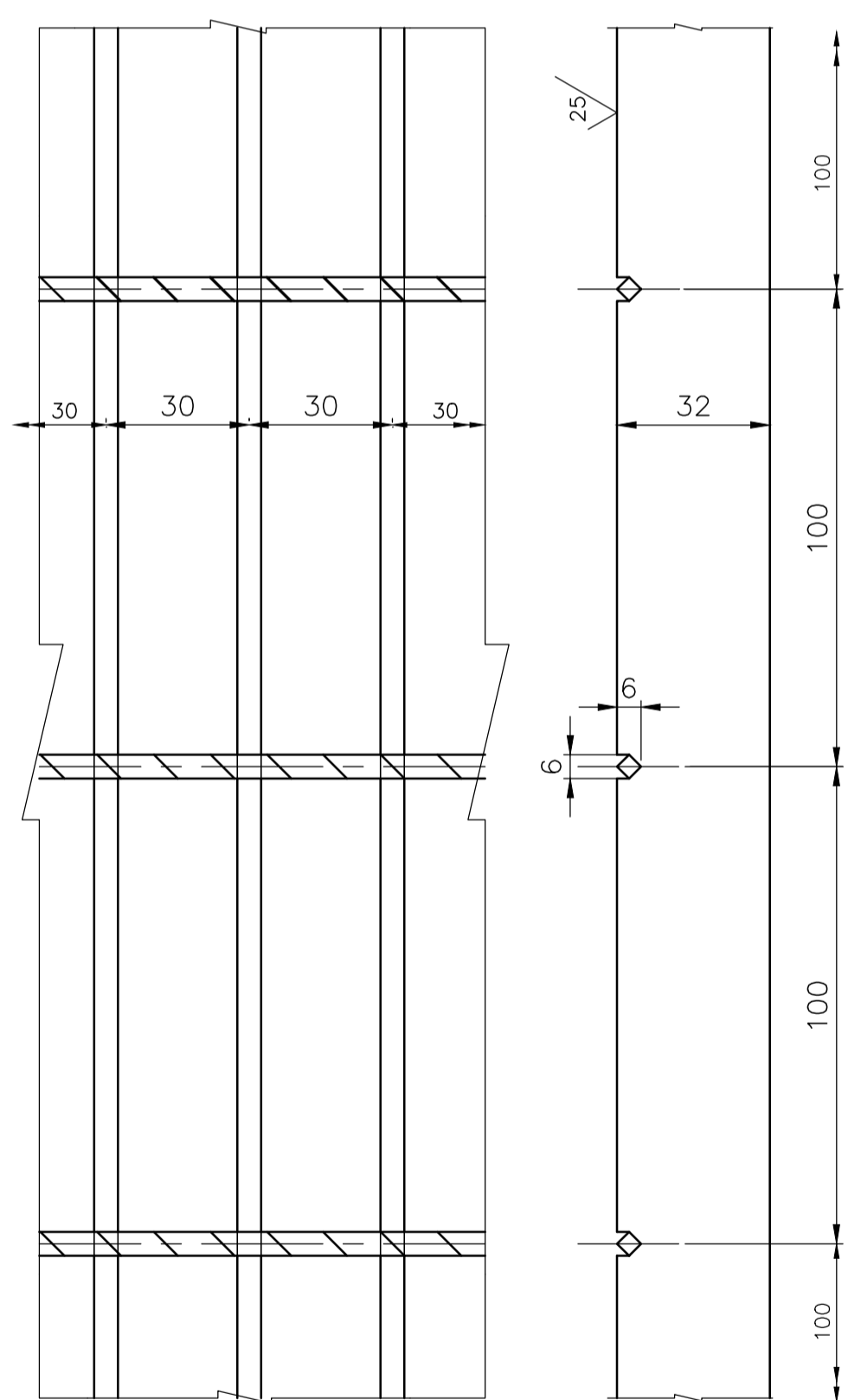
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299

TYPE & SIZE OF WELD	TYPE OF ELECTRODE
4 Δ	E7018 (SMAW/GMAW)



DETAIL-X

S.NO	VARIANT NO	SIZE OF FLOOR GRILL				ITEM NO/NO.OFF								WT. PER FLOOR GRILL BEFORE GALVANISING IN KG	WT. PER FLOOR GRILL AFTER GALVANISING IN KG
		WIDTH A	LENGTH B	C	D	P	Q	R	S						
1	01	305	6000	100	10	01	2	02	9	03	2	04	60	86.099	89.288
2	02	515	6000	100	17	05	2	06	16	07	2	08	60	141.088	146.319
3	03	995	6000	100	33	09	2	10	32	11	2	12	60	266.742	276.639



DETAIL-Y

NOTES:-

- FLOOR GRATINGS ARE TO BE GALVANISED BY HOT DIP PROCESS AFTER CLEANING BY PICKLING PROCESS. MINIMUM AVERAGE WEIGHT OF ZINC COATING SHALL BE 610 GRAMS PER SQ. METRE.
- STRUCTURAL STEEL CONFORMING TO SPECIFICATION IS 2062 E250A ONLY ARE TO BE USED
- GALVANISING TO BE DONE AFTER ALL WORKS ARE COMPLETED.
- ALL SCRATCHED SURFACES AND AREAS DAMAGED BY SITE WELDING SHALL RECEIVE ATLEAST TWO COATS OF COLD GALVANISING USING ZINC RICH PRIMER /PAINTS. THE TOTAL DRY FILM THICKNESS OF SUCH TOUCH UP COLD GALVANISING SHALL NOT BE LESS THAN 150 MICRONS.
- DESIGN LIVE LOAD FOR FLOOR GRILL = 1000 KG/SQ.M
- ALL GRATING MEMBERS ARE TO BE ELECTROFORGED EXCEPT BAND BARS.
- WEIGHT OF FLOOR GRILL INDICATED DOES NOT INCLUDE WEIGHT OF WELD, WHICH IS NEGLIGIBLE.
- FLOOR GRATINGS ARE SUPPORTED BY INTERMITTENT FLOOR BEAMS SUCH THAT, FLOOR GRATINGS TAKE LIVE LOAD AS PER NOTE NO. 05 AND MAXIMUM DEFLECTION IS LIMITED TO L /250 OR 6MM WHICHEVER IS MINIMUM WHERE THE SPAN OF SUPPORTS (L) WILL BE 1.5M MAXIMUM.
- FRAME AND LOAD BEARING BAR WELDING : ALL FOUR CORNERS TO BE FULL WELDED TO BAND BARS AND EVERY FIFTH LOAD BEARING BAR TO BE WELDED TO BAND BAR BY MANUAL WELDING FULL DEPTH, AT BOTH ENDS FROM ONE SIDE.
- GRATINGS (32mm THICK) ARE FOR OUT DOOR APPLICATION
- TOLERANCE FOR LENGTH AND WIDTH OF GRATINGS SHALL BE ±5 mm

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	UNIT	UNIT WEIGHT	QTY	ZONE
03	12	TWISTED SQ. BAR 6mm (DIAGONAL)X 995				IS1786 Fe500		0.141		
03	11	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	2	
03	10	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	32	
03	09	FLAT 5 X 32 X 995				IS2062 E250A		1.250	2	
02	08	TWISTED SQ. BAR 6mm (DIAGONAL)X 515				IS1786 Fe500		0.073		
02	07	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	2	
02	06	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	16	
02	05	FLAT 5 X 32 X 515				IS2062 E250A		0.647	2	
01	04	TWISTED SQ. BAR 6mm (DIAGONAL)X 305				IS1786 Fe500		0.043		
01	03	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	2	
01	02	FLAT 5 X 32 X 5990				IS2062 E250A		7.523	9	
01	01	FLAT 5 X 32 X 305				IS2062 E250A		0.383	2	

REV	DATE	ALTD.	CHD	APPD	REV	DATE	ALTD.	CHD	APPD	REV	DATE	ALTD.	CHD	APPD
06	03.01.08	kesavan	PENCHAL	RJK	05	10-06-05	KARTHIK	PENCHAL	RJK	04	20-05-05	KARTHIK	PENCHAL	RJK
09	12.02.2013	PRAKASH	MPR	MPR	08	22.02.12	PRAKASH	MPR	RRS	07	04-05-08	kesavan	PENCHAL	RJK
03	10.09.'03	SKR	SKR	RRS	02	21.08.03	SKR	SKR	RRS	01				

CAUTION: THE DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD. AND IS NOT TO BE REPRODUCED OR USED TO FURNISH ANY INFORMATION FOR MAKING OF DRAWINGS OR APPARATUS EXCEPT WHERE PROVIDED BY AGREEMENT WITH SHD COMPANY.

<b>BHARAT HEAVY ELECTRICALS LTD</b>	DEPT CODE	NAME	SIGN	DATE
UNIT-HIGH PRESSURE BOILER PLANT	DRN	S.MANIVANNAN		31/05/03
TIRUCHIRAPPALLI-620 014	DESN	S.K.RAMAN		31/05/03
	CHD	S.K.RAMAN		31/05/03
	APPD	R.RAMASAMY		31/05/03

TITLE: **LONG SPAN FLOOR GRILL - 32MM**  
(6 TWISTED SQUARE - GALVANISED)

BHEL DRG NO. **1-35-811-02525**

SCALE:

REV. 09

**Special terms & conditions to Electro Forged floor grills For IMPORT vendors**  
**Enquiry no: 1801301268/13 DT: 30.08.2013**

<b>Sl.no</b>	<b>Conditions</b>	<b>Vendor conformation</b>
1	Offer shall be submitted in <b>TWO PART</b> bid i.e Technical offer with commercial terms & conditions in one envelope & price bid in another envelope, duly sealed.	
2	Price may be finalized thro " <u>On line Reverse Auction Process</u> " using internet. Please confirm your acceptance.	
3	Offer should be valid for a minimum period of 60 days, from the date of Price Bid Opening/ Reverse Auction.	
4	Tender will be finalized on the basis of "Project wise total cost to BHEL".	
5	"Rate per number" to be quoted on "CIF Chennai" indicating price break up for FOB, Marine Insurance, Sea Freight etc separately.	
6	The monthly production capacity " <u>sparable to BHEL/Trichy</u> " against this tender to be clearly indicated in the offer.	_____ MT/Month
7	If the vendor is not conforming to our technical / drawing requirements in total, their offer will not be considered for further evaluation in this tender.	
8	Delay in dispatches shall attract a penalty of Liquidated damages (LD) @ 0.5% per week, subject to maximum of 15%. Any change in this clause is NOT ACCEPTABLE and offer with different clauses is liable for rejection	
9	Lowest Prices received against BHEL tender need not be the technically acceptable one and in that case BHEL reserve the right not to consider the same	
10	Guarantees shall be given for twelve months from the date of receipt of the material at site or eighteen months from the date of dispatch.	
11	BHEL reserves the right to increase or decrease the tendered quantity.	
12	Our normal payment terms 100 % in 45 days from date of dispatch of material. However we can accept usance LC with 45 days interest free credit only in case of import vendors, suitable price loading will be done for the LC payments in tender evaluation.	
13	All the material supplied will be as per BHEL's drawing no 1-35-811-02525/09	
14	If the vendor is not registered with BHEL Trichy, then supplier registration form (SRF) along with requisite documents should be submitted along with the technical offer. In absence of SRF, offer may not be considered.	

(Vendor Sign & Seal)

**Special terms & conditions to Electro Forged floor grills For Indigenous vendors**  
**Enquiry no: 1801301268/13 DT: 30.08.2013**

Sl.no	Conditions	Vendor conformation
1	Offer shall be submitted in <b>TWO PART</b> bid i.e Technical offer with commercial terms & conditions in one envelope & price bid in another envelope, duly sealed.	
2	Price may be finalized thro " <b>Online Reverse Auction Process</b> " using internet. Please confirm your acceptance.	
3	Offer should be valid for a minimum period of 60 days, from the date of Price Bid Opening/Reverse Auction.	
4	Tender will be finalized on the basis of "Total cost basis to BHEL".	
5	"Rate per number" to be quoted on "FOR Nabinagar" basis with price breakup indicating basic price, P&F, ED,CST/VAT, freight charges separately. Insurance will be in BHEL scope.	
6	In case of " <b>Mega Power Projects International Competitive Bidding</b> " payment of ED is Exempted, hence vendors need not pay ED. Necessary project documents will be furnished by BHEL to vendor to avail ED Exemption	
7	Vendor may quote their rates for a) " <b>With PAC</b> " and b) " <b>Without PAC</b> " options.	
8	The monthly production capacity " <u>sparable to BHEL/Trichy</u> " against this tender to be clearly indicated in the offer.	_____ MT/Month
9	If the vendor is not conforming to our technical / drawing requirements in total, their offer will not be considered for further evaluation in this tender.	
10	Delay in dispatches shall attract a penalty of Liquidated damages (LD) @ 0.5% per week, subject to maximum of 15%. Any change in this clause is NOT ACCEPTABLE and offer with different clause liable for rejection.	
11	Lowest Prices received against BHEL tender need not be the technically acceptable one and in that case BHEL reserve the right not to consider the same	
12	Guarantees shall be given for Twelve months from the date of receipt of the material at site or Eighteen months from the date of dispatch.	
13.	BHEL reserves the right to increase or decrease the tendered quantity.	
14	<b>Payment term:</b> 100% payment will be made in 45 days from the date of receipt of material at site.LC Payment term is not acceptable.	
15	All the material supplied will be as per BHEL's drawing no 1-35-811-02525/09	
16	If the vendor is not registered with BHEL Trichy, then supplier registration form (SRF) along with requisite documents should be submitted along with the technical offer. In absence of SRF, offer may not be considered.	

(Vendor Sign & Seal)

**Commercial Terms& conditions for Enquiry no: 1801301268/13 DT:  
30.08.2013(Indigenous Vendors)**

SL NO	CONDITIONS	BHEL TERMS	Accepted/Not Accepted
1	Delivery Terms	FOR Site	
2	Delivery period	90 days from PO	
3	ED	Vendor to quote	
4	CST/VAT	Vendor to quote	
5	Freight	Vendor Scope	
6	Insurance	BHEL Scope	
7	LD	Delay in dispatches shall attract a penalty of Liquidated damages (LD) @ 0.5% per week, subject to maximum of 15%	
8	Risk Purchase	Applicable	
9	PBG	Not Applicable	
10	Payment terms	100% payment will be made in 45 days from the date of receipt of material at site.	
11	Validity	60 days from the date of RA/Price bid opening	
12	Firm Price	Firm Price	
13	PVC	Not Applicable	
14	Packing Forwarding	Vendor Scope	
15	Guarantee/Warranty	12 months from the date of receipt of the material at site or Eighteen months from the date of dispatch.	

(Vendor Sign & Seal)

**Commercial Terms& conditions for Enquiry no: 1801301268/13 DT: 30.08.2013  
(Import Vendors)**

SL NO	CONDITIONS	BHEL TERMS	Accepted/Not Accepted
1	Delivery Terms	CIF Chennai	
2	Delivery period	90 days from PO	
3	ED	Not Applicable	---
4	CST/VAT	Not Applicable	---
5	Freight from Chennai to Project Site	BHEL Scope	
6	Insurance	by BHEL (for Chennai to Site movement)	
7	LD	Delay in dispatches shall attract a penalty of Liquidated damages (LD) @ 0.5% per week, subject to maximum of 15%	
8	Risk Purchase	Applicable	
9	PBG	Not Applicable	
10	Payment terms	100 % thro bank in 45 days from date of receipt of material. However we can accept usance LC with 45 days interest free credit only in case of import vendors, suitable loading will be done for the other payments.	
11	Validity	60 days from date of RA/Price bid opening	
12	Firm Price	Firm Price	
13	PVC	Not Applicable	
14	Packing Forwarding	Vendor Scope	
15	Guarantee/Warranty	12 months from the date of receipt of the material at site or Eighteen months from the date of dispatch.	

(Vendor Sign & Seal)

**BHEL TRICHY-14  
MM / BOI**

REF: FB: MM: BOI: 33EFG/OT

DATED: 22.08.2013

**SPECIAL CONDITIONS**

1. This tender is for the supply of Electro Forged Floor Grills of sizes 32x995x6000, 32x515x6000 and 32x305x6000 as per BHEL drawing no 1-35-811-02525/09 attached with this tender. Specs are furnished in drawing mentioned above.
2. This requirement is for our Nabinagar project and will be ordered as one package.
3. The vendor shall have adequate experience in manufacturing and supply of Electro forged Floor Grills.
4. Vendor shall indicate in their offer clearly the monthly tonnage that can be manufactured in their factory against the requirement and also their total manufacturing capacity in MT / Month. Vendors also have to send an Integrity pact as per format given by BHEL.
5. The tender is in two parts. One part consisting of commercial and technical conditions and other with price details. Techno-Commercial bid and price bid are to be submitted in separate sealed covers. In addition to technical and commercial conditions, vendors who are not registered vendor of BHEL, Trichy have to submit the filled in "Supplier Registration Forms" (available in [www.bhel.com](http://www.bhel.com)) along with the technical bid. Based on this and other conditions, as well as capacity and capability, vendors will be short-listed. Both these covers are to be put in a single cover duly super scribing the Enquiry Number. The technical and commercial bid will be opened on the due date and based on the acceptance of techno-commercial bid and vendor evaluation, the price bid/RA of the qualified vendors will be opened on a suitable date with due intimation.

Following will be the criteria for vendors to qualify:

- a. Vendor should have been approved by BHEL Trichy for this items under Permanent category (OR)
- b. Vendor should submit the following documents for considering them as an approved vendor:
  - i. Duly filled-in Supplier Registration Forms.

- ii. Availability of minimum manufacturing, handling, testing and measuring facilities as detailed in the Supplier Registration Form.
  - iii. BHEL will have the right for spot assessment of the facilities for assessment.
  - iv. Qualifying to our techno commercial requirements of the Enquiry.
6. BHEL reserves the right to increase or decrease the tendered quantity and split the tendered quantity among more than one tenderer and place orders accordingly in any proportion based on commitment, requirement and supplier's capability in terms of delivery and quality as assessed by BHEL.
  7. BHEL reserves the right to negotiate the L1 rate.
  8. BHEL reserves the right to re-float the tender opened, if L1 price is not the lowest acceptable price to BHEL inter-alia other reasons.
  9. BHEL reserves the right to order on more than one vendor at the lowest acceptable price to BHEL.
  10. Vendors have to confirm to the Commercial Terms and Special Terms & Conditions attached.
  11. BHEL standard LD condition is 0.50 % per week to a maximum of 15 % for the undelivered portion of materials.
  12. BHEL general Payment terms are 100 % payment will be made in 45 days from the date of receipt of materials at site.

Sachin Saini  
Engineer/MM/BOI  
[sachinsaini@bheltry.co.in](mailto:sachinsaini@bheltry.co.in)  
0431-2577897

## **Specification**

Supply of Electro Forged Floor Grills made of steel of sizes 32x995x6000, 32x515x6000 and 32x305x6000 as per BHEL drawing no 1-35-811-02525/09 attached with this tender.

Specification of structural steel must be as per BHEL drawing.

The material shall be galvanized by Hot Dip Process with average weight of Zinc coating be 610 gms per sqm.

### **Total Requirement**

<b>Sl. No</b>	<b>Description</b>	<b>Qty (Nos)</b>	<b>Remarks</b>
1	Electro Forged Floor Grills 32x995x6000	3780	
2	Electro Forged Floor Grills 32x515x6000	1850	
3	Electro Forged Floor Grills 32x305x6000	1320	

(Sachin Saini)

## Checklist

### For Registered vendors with Permanent Vendor code

1. Commercial Terms and conditions (Signed and Sealed)
2. Special Terms and conditions (Signed and Sealed)

### For New Vendors not registered with BHEL Trichy

1. Commercial Terms and conditions (Signed and Sealed)
2. Special Terms and conditions (Signed and Sealed)
3. Technical brochure.
4. Supplier Registration Form (SRF) has to be duly filled up online and send one copy with all the documents as mentioned in SRF. Offers with incomplete forms will not be entertained  
URL for online Registration form is as below

<http://vis.bheltry.co.in/olsa/>

### For any help regarding filling of SRF, you may contact following

Mr Sukumar (Head - Supplier Development Cell)  
Ph: 0431/2577383  
Email: [sukumar@bheltry.co.in](mailto:sukumar@bheltry.co.in)

Mr. Ebinesan (Sr. Manager- Supplier Development Cell)  
Ph:0431/2577448  
Email ID: [ebi@bheltry.co.in](mailto:ebi@bheltry.co.in)

### For any queries regarding tender you may contact

Mr. Sachin Saini  
Engineer/MM/BOI  
BHEL Trichy  
0431-2577897  
[sachinsaini@bheltry.co.in](mailto:sachinsaini@bheltry.co.in)