



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT

TITLE BOILER ROOF SHEETS AS PER ATTACHED DRAWING	Phone: +91 431 257 7897 Fax : +91 431 252 0719 Email : sachinsaini@bheltry.co.in
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	Reference Number: Enquiry 1801300875	Enquiry Date: 07.06.2013	Due date for submission of quotation: 08.07.2013
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 "Boiler Roof Sheets as per our attached drawing"

BHEL commercial terms & conditions with Price Bid formats and all annexure can be downloaded from BHEL web site http://www.bhel.com or from the Government tender website http://tenders.gov.in (public sector units) Bharath Heavy Electricals Limited) under enquiry reference "XXXXXXXXX "	
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 Bharath Heavy Electricals Limited DGM / MM

Annexure I

Specification for All projects

SPECIFICATION : Continuously prepainted galvanized steel sheets to specification IS:14246 As per following requirements

Base Material – Mild steel as per IS-513.

Nominal thickness – 0.63 MM,

Galvanizing: The base metal shall be galvanized with minimum grade of zinc coating 275 grams / sq.m as per IS:277

Top Side Paint: Top side coating shall be 20 microns minimum of Silicon Modified Polyester (SMP) painting.

Bottom Side paint: Bottom side coating shall be 7 microns minimum of Silicon Modified Polyester (SMP) painting.

Durability of paint coating: As per Class-2 of IS:14246


Colour: Blue (RAL 5012)

Lot Wise Sizes & Qty

Lot 1		Lalitpur	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	11850
2	Barge Board	.63x400x2440	630
3	Plain Sheet	.63x1000x3000	60
Total			12540

Lot 2		Mouda	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	19600
2	Barge Board	.63x400x2440	900
3	Ridge Piece	.63x400x2440	50
4	Plain Sheet	.63x1000x3000	80
Total			20630

Lot 3		Sagardighi	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	6000
2	Barge Board	.63x400x2440	700
3	Plain Sheet	.63x1000x3000	40
Total			6740

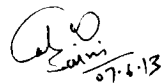

SACHIN SAINI
Engineer/BOI

Lot 4		SCCL	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	15800
2	Profile Sheet	.63x1060x1800	400
3	Barge Board	.63x400x2440	1200
4	Ridge Piece	.63x400x2440	60
5	Plain Sheet	.63x1000x3000	140
Total			17600

Lot 5		Vindhyachal	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	7050
2	Profile Sheet	.63x1060x1800	200
3	Barge Board	.63x400x2440	590
4	Ridge Piece	.63x400x2440	40
5	Plain Sheet	.63x1000x3000	70
Total			7950

Lot 6		Yermarus	
S. No	Material	Size	Qty (Nos)
1	Profile Sheet	.63x1060x1600	3200
2	Barge Board	.63x400x2440	460
3	Plain Sheet	.63x1000x3000	60
Total			3720

G. Total 69180


 SACHIN SAINI
 Engineer/BOI

Sample Design Calculations

Vendors have to submit design calculations of their offered profile as per sample given below.

DESIGN SHEET For TREPEZOIDAL ROOFING

DATA:-

Max Purlin Spacing	= 1300mm	} BHEL Data for design calculation
Live Load	= 1.5 kN/sqm. (roof slope < 10 degree)	
Wind load	= 2.5 kN/sqm.	
Deflection Criteria	= L/250	

Roof Profile

Cover width	= 1000mm	} Sample profile taken
Center to Center between crest	= 200mm	
Depth of corrugation	= 30mm	
Base metal thickness	= 0.60mm	
Ys	= 300mpa	

Properties

Area_of cross section	= 750 mm ²	} Design Calculations
Ix	=65490mm ⁴	
Iy	=71088152mm ⁴	
Zx (t)	=3250mm ³	
Zx (b)	=7870mm ³	
Bending moment	= $W\ell^2/10 = 2.5*1.3^2/10 = 0.4225$ kN-m	
Moment Resistance	= $0.66 * 300 * 7870/1000$	
	= 1.537 kN-m	
	Hence Safe	

Check for Deflection

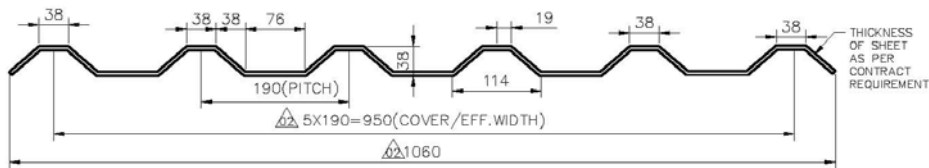
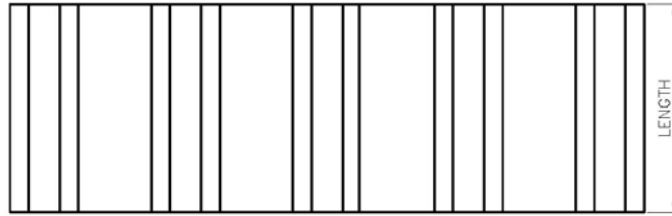
$$\delta = \frac{3}{384} \cdot \frac{W\ell^4}{EI} = \frac{3}{384} * 2.5*1.3*1300^3*1000/2*10^5*65490$$

$$= 4.26\text{mm.}$$

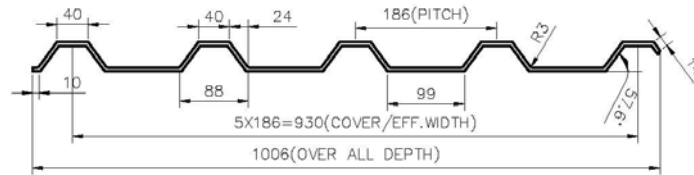
Allowable = $\ell/250 = 1300/250 = 5.2\text{mm}$

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



TYPE-I



TYPE-II

REV	DATE	ALTERED : S.SEMILA
02	29.07.06	CHD & APPD :R.J.K

DRAWING PITCH ADDED.

REV	DATE	ALTERED :
01		CHD & APPD :

TYPE-I & TYPE-II DETAILS SEPARTELY GIVEN

VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE		UNIT	UNIT WEIGHT
			MATERIAL SPECN	A/C/P		QUANTITY



Bharat Heavy Electricals Ltd
UNIT: HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI - 620014

DRN	P.RAMACHANDRAN	SIGNATURE Sd.....	DATE 20.01.2000
CHD	M.B.K.RAJA	Sd.....	20.01.2000
APPD	R.RAMASAMY	Sd.....	20.01.2000

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)
CODE				

REF TO ASSY / OLD DWG

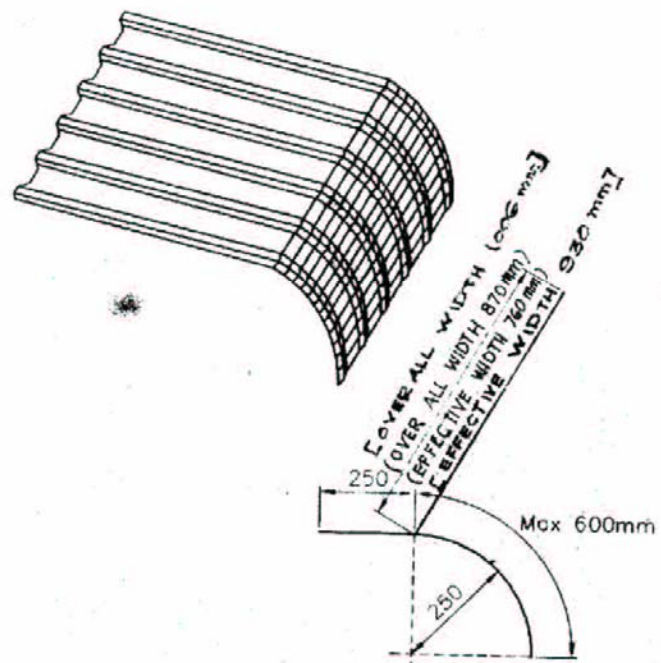
TITLE
METAPOLY TRAPEZOIDAL PROFILE SHEET

DRAWING NO :
4-35-611-00333

REV
02

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REV 01	DATE	ALTERED : CHD & APPD :	REV 02	DATE	ALT: JAFFAR CHD: <i>[Signature]</i>	ALL DIMENSIONS ARE IN MM FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / OP
OVER ALL WIDTH & EFFECTIVE WIDTH CORRECTED.			0.8 mm SHEET ADDED OVER ALL WIDTH & EFFECTIVE WIDTH MARKED			



01	METAPOLY VENTILATOR CURVE 1.0 MM THICK				
VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE	A/C	UNIT
					UNIT WEIGHT
			MATERIAL SPECN		QUANTITY

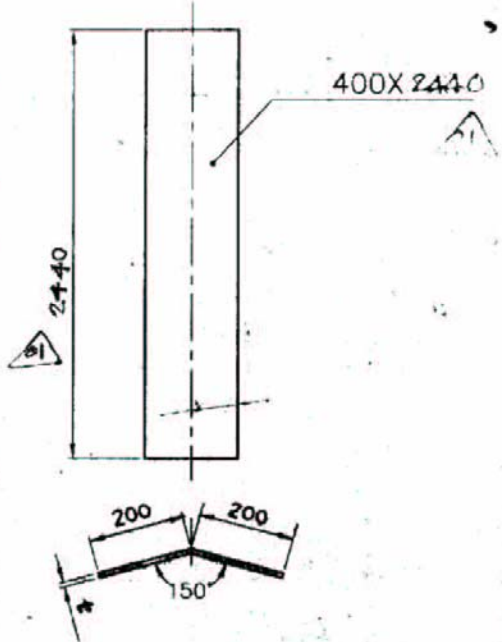
		Bhorat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TRUCHIRAPALLI - 620014		DRN B.S./A.R.	NAME <i>[Signature]</i>	SIGNATURE <i>[Signature]</i>	DATE 11.01.97	NO. OF VAR
DEPT ST		SCALE N.T.S.	WEIGHT (Kg)	APPD R.M.A.	REF TO ASSY / OLD DWG	ITEM NO	No OF ITEMS	
CODE 122	TITLE METAPOLY TRAPEZOIDAL PROFILE VENTILATOR CURVE		CARD CODE U 01	DRAWING NO : 4-35-611-00321			REV 02	

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ALL DIMENSIONS ARE IN MM
 FOR TOLERANCES OF UNTOLERANCED
 DIMENSIONS DURING MANUFACTURE
 REFER RELEVANT QCP / QP

RIDGE PIECE

NOTES:
 1. META POLY SHEET
 (POLY STEEL) COLD
 ROLLED WITH ZINC
 COATING IN A CONTI-
 NUOUS HOT DIP
 GALVANISING LINE &
 SUBSEQUENTLY
 GIVEN 5 LAYERS OF
 ORGANIC COATING.



t = THICKNESS
 0.8mm, 1.0mm

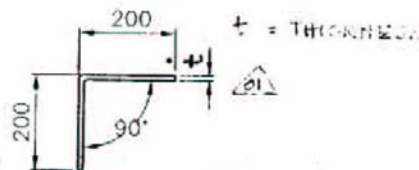
REV	DATE	4/7/2011	01	METAPOLY SHEET RIDGE PIECE t - TK.				
			ITEM NUMBER	DESCRIPTION	STD	MATERIAL CODE	UNIT	UNIT WEIGHT
						MATERIAL SPECN		QUANTITY

	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		NAME DRN: A.RAJENDRAN	SIGNATURE 	DATE 08/07/11	NO. OF SHEETS
			QND: R.R.SAMY			
			APPR: R.M.A.			
DEPT ST CODE 122		SCALE 1:10, N.T.S.	WEIGHT (Kg):	REF TO ASSY / OLD Dwg	USE TO	BY THE TIME
TITLE DETAILS OF RIDGE PIECE			CARD CODE U-01	DRAWING NO : 4-35-611-00317	REV 01	


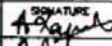
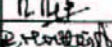


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BARGE BOARD

ALL DIMENSIONS ARE IN MM
FOR TOLERANCES OF UNTOLERANCED
DIMENSIONS DURING MANUFACTURE
REFER RELEVANT GCP / GP



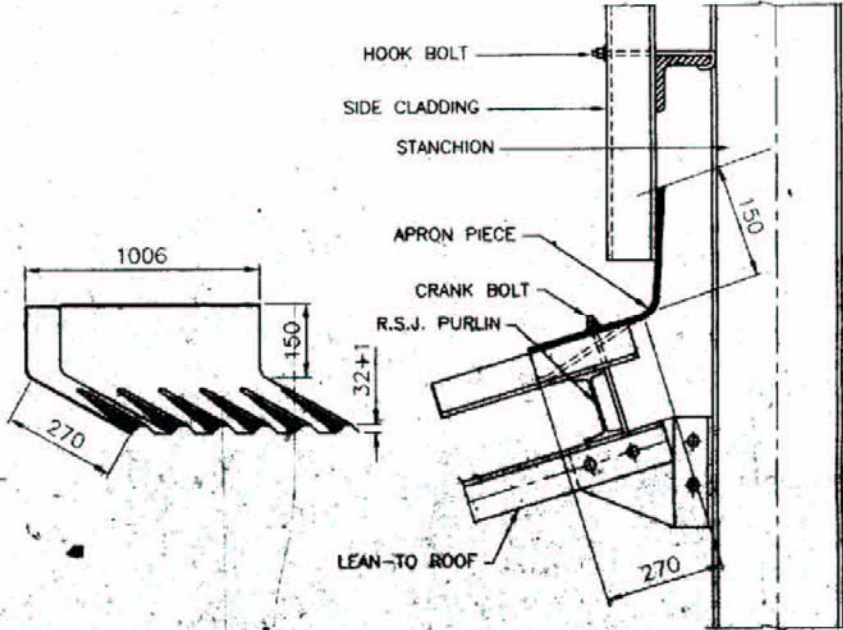
REV 01	DATE 21-10-2007	ALTERED BY CND/APPD	02	METAPOLY BARGE BOARD 0.8 MM TK.				
02			01	METAPOLY BARGE BOARD 1.0 MM TK.				
ZANG METAPOLY BARGE BOARD 0.8MM TK. ADDED								
ITEM NUMBER	DESCRIPTION			STD	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT
					MATERIAL SPECN			QUANTITY

		Bharat Hedvy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TRUCHIRAPALLI - 620014		DSN B.S/A.R	SIGNATURE 	DATE	NO. OF VAR
CHD R.R.SAMY	APPD R.M.A.			16/10/07			
DEPT ST		SCALE 1:10	WEIGHT (Kg)	REF TO ASSY / OLD DWG	ITEM NO	No OF ITEMS	
CODE 122	TITLE DETAILS OF BARGE BOARD CORNER PIECE		CARD CODE U-01	DRAWING NO : 4-35-611-00323	REV 01		

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REV	DATE	ALTERED	JAFAR
01	3.10.97	CHD & APPD	
0.8 mm THICK SHEET			
ADDEND			

ALL DIMENSIONS ARE IN MM
FOR TOLERANCES OF UNTOLERANCED
DIMENSIONS DURING MANUFACTURE
REFER RELEVANT QCP / OP



APRON PIECE 110

VARIANT NUMBER	METAPOLY SHEET 1.0mm THICK [0.8 mm]	S	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT
	DESCRIPTION					MATERIAL SPECN

		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DESIGNED BY: S.S./R.R. CHECKED BY: R.A.S. APPROVED BY: R.M.A.	SIGNATURE: [Signature] DATE: 11.01.97	NO. OF VARS: 16/197
DEPT: ST	SCALE: N.T.S.	WEIGHT (Kg):	NO. TO ASSEMBLY / SELF DRG:	ITEM NO:	NO. OF ITEMS:	
CODE: 122						
TITLE: METAPOLY TRAPEZOIDAL PROFILE APRON PIECE			CARD CODE: U 01	DRAWING NO: 4-35-611-00320	REV: 01	

BHEL TRICHY
MM / FB/BOI/13

REF: BOI: 38MPS/OT2013

DATED: 07.06.2013

SPECIAL CONDITIONS

1. This tender is for the supply of Pre-painted Roof Sheets as per specs, size and quantities mentioned in Annexure I attached to this enquiry.
2. The vendor shall have adequate experience in manufacturing and supply of Pre Painted Galvanized Roof Sheets
3. 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.
4. 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) 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 in our approved vendor list (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.
5. BHEL reserves the right to increase or decrease the tendered quantity if the project site warrants so.
 6. BHEL reserves the right to negotiate the L1 rate.
 7. 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.

8. BHEL reserves the right to order on more than one vendor at the lowest acceptable price to BHEL.
9. Vendors have to confirm to the Commercial Terms and Special Terms & Conditions attached.
10. BHEL standard LD condition is 0.50 % per week to a maximum of 15 % for the undelivered portion of materials.
11. All corrigendum will be published on BHEL website and Government tenders website only. Vendors are advised to check the said NIT regularly.
12. New vendors must enclose design calculations as per sample format enclosed with the enquiry. Product catalogue must be sent along with the technical offer.

NOTE:

For material specifications, sizes and quantities please refer Annexure I to this enquiry.

(Sachin Saini)
Engineer/BOI
0431-2577897
sachinsaini@bheltry.co.in

General terms & conditions to Boiler Roof Sheets For IMPORT vendors
Enquiry no: 1801300875/13 DT: 07.06.2013

Sl.no	Conditions	Vendor conformation
1	Offer shall be submitted in TWO PART 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 "Lot wise total cost to BHEL".	
5	"Rate per number" to be quoted on "FOB Basis" and the Sea Freight amount to be indicated Separately. If required the same will be operated.	
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 drawings and specifications as published with this enquiry.	

(Vendor Sign & Seal)

**Commercial Terms & conditions for Enquiry no: Enquiry no: 1801300875/13 DT:
07.06.2013
(Import Vendors)**

SL NO	CONDITIONS	BHEL TERMS	Accepted/Not Accepted
1	Delivery Terms	CIF Chennai	
2	Delivery period	90 days from PO	
3	Freight from Chennai to Project Site	BHEL Scope	
4	Insurance	by BHEL (for Chennai to Site movement)	
5	LD	Delay in dispatches shall attract a penalty of Liquidated damages (LD) @ 0.5% per week, subject to maximum of 15%	
6	Risk Purchase	Applicable	
7	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.	
8	Validity	60 days from date of RA/Price bid opening	
9	Firm Price	Firm Price	
10	PVC	Not Applicable	
11	Packing Forwarding	Vendor Scope	
12	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)

General terms & conditions to Boiler Roof Sheets For Indigenous vendors
Enquiry no: 1801300875/13 DT: 07.06.2013

Sl.no	Conditions	Vendor conformation
1	Offer shall be submitted in TWO PART 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 " On line Reverse Auction Process " 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 "Lot wise Total cost to BHEL".	
5	"Rate per number" to be quoted on "Ex-works" basis.	
6	Applicable Duties, taxes. etc shall be indicated separately.	
7	In case of " Mega Power Projects International Competitive Bidding " 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. Vendor shall make efforts to get material cleared without ED under said documents.	
8	Vendor may quote their rates for a) " With PAC " and b) " Without PAC " options.	
9	The monthly production capacity " <u>sparable to BHEL/Trichy</u> " against this tender to be clearly indicated in the offer.	_____MT/Month
10	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.	
11	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.	
12	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	
13.	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.	
14	BHEL reserves the right to increase or decrease the tendered quantity.	
15	Payment term: 100% payment will be made in 45 days from the date of receipt of material at site.LC Payment term is not acceptable.	
16	All the material supplied will be as per BHEL's drawings and specifications as published with this enquiry.	

(Vendor Sign & Seal)

**Commercial Terms & conditions for Enquiry no: 1801300875/13 DT: 07.06.2013
(Indigenous Vendors)**

SL NO	CONDITIONS	BHEL TERMS	Accepted/Not Accepted
1	Delivery Terms	Ex Works (Name of place)	
2	Delivery period	90 days from PO	
3	ED	Vendor to quote	
4	CST/VAT	Vendor to quote	
5	Freight	BHEL Scope	
6	Insurance	by BHEL	
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	Payment terms	100% payment will be made in 45 days from the date of receipt of material at site.	
10	Validity	60 days from the date of RA/Price bid opening	
11	Firm Price	Firm Price	
12	PVC	Not Applicable	
13	Packing Forwarding	Vendor Scope	
14	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)