



BHARAT HEAVY ELECTRICALS LIMITED
HEEP HARIDWAR INDIA-PIN 249403
FAX NO: 0091 1334 226462/223948
PHONE NO: 0091 1334 284049

Tender No.: F/F219/2014/2056K/OT1

Due Date: 06.10.2014

Sub: BHEL-HEEP Haridwar/OPEN-TENDER

Dear Sir,

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators and so on. Government of India has a plan to add more than 76000 MW in the current five year plan (2012-2017).

Sealed tenders with the Tender No. and opening date clearly super-scribed on the cover are invited from the manufacturers (registered as well as unregistered) for the supply of the following items:-

The tender documents can be down loaded from our web site www.bhel.com or www.bhelhwr.co.in or www.tenders.gov.in or <http://eprocure.gov.in> submitted with requisite EMD and tender fee. **Only those vendors who fulfill the Minimum Qualifying Requirements (as per Annexure) will be considered for further technical evaluation.**

This notification shall be published in Indian as well as International News paper. **The last date for taking tender documents shall be 04.10.2014 & opening of tender shall be 06.10.2014.** Tenders will be received up to 1.45 P.M. on 06.10.2014 and opened on the same day at 2.00 P.M. in the Tender Room. **Please note that tender received after due date & time (1.45PM on 06.10.2014) will not be opened.** BHEL will not be responsible for any type of postal / courier delay.

Intending vendors must remit the tender fee of Rs. 2,000/- for indigenous vendors (or equivalent amount in foreign currency for foreign vendors i.e. USD 50/- or EU 40/-) against each tender along with the requisite EMD

Rs 2, 00,000/- (Rupees Two Lacs only) in the form of cash/pay order/bank demand draft only (Cheque / Bank Guarantee are not acceptable) while submitting the tender documents as detailed in "Instruction to Bidders", after downloading from this web site. In case of foreign bidders e-payment may also be accepted as EMD.

EMD may be waived for following cases:

- Central/State – PSUs/Government departments
- Micro and Small Enterprises (Registered under SSI, NSIC, Khadi Boards, DIC etc) subject to submission of appropriate documents.
- BHEL approved suppliers for subject items i.e. Stainless Steel Plates.

Tender fee may be waived for Micro and Small Enterprises (Registered under SSI, NSIC, Khadi Boards, DIC etc) subject to submission of appropriate documents.

Specifications of the above items can be physically collected from BHEL Haridwar or vendors can contact by email ashishk@bhelhwr.co.in; rschn@bhelhwr.co.in; pkbansal@bhelhwr.co.in against proof of draft of the tender fee in favour of BHEL, Haridwar. This draft is to be submitted along with offer. Amendments/Corrigendum, if any, will be hosted on our web site only. Other terms and conditions will be as per tender documents.

Tender no.	Item Description	Specification & Rev. No.	Size	Qty.
F/F219/14/2056/K/OT1	Stainless Steel Plates	AA10740 Rev.08	1) 8x1250x4000mm 2) 25x1250x4000mm 3) 40x1250x4000mm 4) 50x1250x3500mm 5) 70x1250x4000mm 6) 80x1250x4000mm	10MT 24MT 16MT 30MT 7MT 3.2MT

The total quantity may undergo change at the time of ordering.

The details of each item with required delivery are given in **Annexure-IV(Details of Items)**

Please submit your Techno-Commercial offer only for the above requirement subject to our terms and conditions.

BIDS SHALL BE OPENED OF THOSE VENDORS ONLY WHO SHALL SUBMIT EMD AND TENDER FEE. [PLEASE SUBMIT SEPARATE DRAFTS FOR EMD AND TENDER FEE DRAWN IN FAVOUR OF BHEL, HARIDWAR IN ANOTHER ENVELOPE SUPERSCRIBED WITH BOLD LETTERS “EMD & TENDER FEE” at 2 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company (Manufacturer) for attending the bid opening.

KINDLY READ “INSTRUCTIONS TO BIDDERS.” QUOTATIONS NOT IN ACCORDANCE WITH THE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED.

Thanking You,

Yours Faithfully,

For & on behalf of BHEL, Hardwar

(P K Bansal)

AGM (Purchase-Steel)

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

DEFINITION

BHEL approved vendors for SS Plate - Are those who are registered with BHEL, Haridwar for procurement of Stainless Steel Plates according to BHEL specification AA10740 Rev 08 (ASTM A240M, Type 321).

Un-approved vendors for SS Plate - Are those who are not registered with BHEL, Haridwar for procurement of Stainless Steel Plates according to BHEL specification AA10740 Rev 08 (ASTM A240M, Type 321).

Un-approved vendors shall be considered, if and only if, they meet the minimum qualification requirement and quality requirements as given below.

Minimum Qualification Requirement for Stainless Steel Plates as per BHEL specification AA10740 Rev 08.

Note: Vendors already approved with BHEL HECP, BHEL Haridwar for enquiry items are exempted from the condition below:

Below points (1 to 7) are mandatory qualification requirements. Offers of vendors not meeting these requirements will not be considered:

1. Vendor must have experience of manufacturing and supplying plates of grade ASTM A240M, type 321 or IS: 6911-1992, Gr: X04Cr18Ni10Ti or EN 10088-2, Gr: X6CrNiTi18-10.

2. a) Details of the experience to be submitted with offer in the format given below:

S. No	Name of customer	Purchase order No	Dimension (ThicknessxWidthxLength)	Year of supply	Quantity

b) Minimum three test certificates of plates, close to minimum and maximum enquiry dimensions, to be submitted with offer. These test certificates must be duly witnessed by third party inspection agency (like Lloyds/TUV/BVIS etc) and pertain to purchase orders listed in support of experience. Self-certification on test certificates shall not be acceptable.

3. Vendor must have in house manufacturing facilities for melting including secondary refining, rolling and heat treatment to manufacture plates as per BHEL specification AA10740 and enquiry sizes. **Outsourcing of any of the above operation is not acceptable.**

4. Details of the manufacturing facilities like melting, secondary refining, rolling and heat treatment are to be submitted with offer.

5. Details of testing facilities (in-house/outsourced) are to be submitted.

6. Vendors to confirm that they will meet all the requirements of BHEL specification AA10740. Clause wise confirmation to be given with offer.

7. Testing and certification as per ordering specification & documents.

Vendors must fill up Annexure – II in confirmation to above Minimum Qualifying Requirements.

ESSENTIAL INSTRUCTIONS

1. **Only those bids will be opened which have been submitted with requisite EMD & tender fee.**
2. **All un-approved vendors shall be approved by BHEL, if found suitable, on the basis of data furnished by them in Supplier Registration Form (SRF) Foreign Vendors or Indigenous Vendors. SRF can be downloaded from website http://www.bhel.com/vendor_registration/vendor.php**
3. **Vendor (s) shall not be considered for ordering if not approved by BHEL.**
4. **BHEL team may visit the vendor (s) works for verification of capability and capacity claimed in tender documents/offer (s).**
5. The tenders shall be submitted in three parts
 - i. Part I - EMD, Tender fee, minimum qualification requirements & Techno-Commercial Bid,
 - ii. Part II - Price Bid &
 - iii. Part III - Vendor Registration Form

As described below on or before the due date. **Vendor Registration Form shall be submitted by un-approved vendors for subject item only.**

6. **BHEL will deal directly with the manufacturers/principal vendors and no correspondence with the agents will be entertained. The agents will not be permitted to visit/interact with BHEL on behalf of their principals. Subsequently also, no correspondence of any type will be made with any agents. (All individuals/companies – representing/advisor/retainership basis or claimed to be part of time employees for many OEMs/claiming to be channel or business partner for BHEL work/stockist not registered specifically etc are agents). Communications with only those agents who have submitted agency agreement with their respective principal may be done.**
7. The bidders (original suppliers) will have to submit ink-signed offer/bid in original directly to BHEL. In case the bid is submitted by FAX/e-mail, the bidders shall simultaneously ensure submission of ink-signed original bid to BHEL also in manner prescribed in tender.
8. The suppliers or their authorized person may be allowed to attend the tender opening, if duly authorized by their principals, through a specific letter for a particular enquiry for specific price bid opening on that particular day. General authorization letter is not acceptable.
9. **The Quotation should be from the Principal / Original Manufacturer, failing which the quotation is likely to be ignored. In Case the quotation is submitted through agent, the quotation must accompany original authorization letter.**
10. Any corrections / amendments shall be properly & fully authenticated with signature. No Overwriting is acceptable.
11. Part-I containing techno-Commercial bid and part-III containing Vendor Registration Form will be opened on the date and time specified in the tender notice in the presence of those vendors who wish to attend.
12. Part-II (Price Bids) along with supplementary price bids, if necessary, will be opened at a later date of only those bidders whose techno-commercial bids have been found acceptable.
13. Suitability of delivery shall be the important criteria for evaluation of techno commercial bid and the bids falling within the delivery period and meeting the last delivery requirement. Any offers beyond this period shall be rejected.
14. Currency exchange rate (TT selling of SBI) will be applicable on the date of opening of Part-I (Techno-commercial Bid) for evaluation purpose.
15. **Depending upon the delivery suitability, BHEL reserves the right to split order on more than one vendor.**
16. **Evaluation of Bid: - The bid shall be evaluated**
 - a. **Cost to BHEL basis. (Basic Cost + Insurance + Transportation + Duty)**
 - b. **The loading, if any, on account of LD penalty, payment terms or any other cost determined at later stage, which shall be communicated to the vendor.**
17. Tenders when finalized shall be in the name of the bidder only and change of name during tender evaluation (without certificate from registrar of company) and after submission of the tender is liable to make the offer ineligible for participation.
18. All test certificates / Guarantee certificates to be submitted in TRIPLICATE along with dispatch documents.
19. **BHEL reserves the right to go for reverse auction. Vendors are requested to give their best price. In case of failure of reverse auction the paper bid shall be processed. Bidder should clearly indicate their acceptance for reverse auctioning in Annexure-I. The bids of those vendors who do not agree for reverse auction may not be considered. The Terms & Condition for Reverse Auctioning are given below.**

20. Total weight -- /Gross / Net in Kg. essentially should be indicated.

21. BHEL will evaluate the technical bids against essential criteria/requirements. BHEL may seek clarifications, if required, from the qualified bidders only. These clarifications will be communicated to the eligible vendors. **The offers of those bidders, who are unable to respond in specified time frame, are likely to be ignored.**

22. SETTLEMENT OF DISPUTES

- Indigenous Vendors: In all cases of dispute the matter shall be referred for arbitration to any arbitrator to be appointed by the Executive Director or any officer who is the administrative head of Bharat Heavy Electricals Ltd., at Haridwar. The venue of arbitration shall invariably be Ranipur Haridwar. The award of the arbitrator shall be final and binding on both the parties. The arbitrator shall have the power to extend, from time to time, the time for making his award with the consent of the parties.
- Foreign Vendors: In the event of any dispute or difference arising between the parties to this contract regarding execution of same or their respective rights and liabilities there under, the same shall except as otherwise expressly provided therein, be referred to the arbitration of the two arbitrators, one to be appointed by each party; or in the case of the said arbitrators not agreeing then an umpire to be appointed by the two arbitrators in writing before entering on that reference and provisions of the Indian Arbitration Act ,1940 or any statutory notification, or re-enactment therefore and rules framed there under from time to time shall apply to such arbitration . If the two arbitrators do not agree on the appointment of umpire, the nomination of the umpire shall be done by the International Chamber of Commerce, Paris(France).The decision of arbitrators, or in case of their not agreeing, that of the said umpire shall be binding both on seller and purchaser. The venue of the arbitration invariably be New Delhi.

23. JURISDICTION

All question, dispute or differences arising under, out of or in connection with the purchase order shall be subject to the exclusive jurisdiction of Haridwar courts.

24. OVER RIDING CLAUSE

All stipulations made in any correspondence other than those exchanged in regards to “instruction” in our tender documents / enquiry for submission of your offer, if at all shall be void to the extent they are repugnant to the conditions contained herein above and in the purchase order.

25. FINALITY OF MANAGEMENT DECISION

At all places in the preceding clauses BHEL Management’s decision shall be final.

IN CASE YOU ARE NOT MAKING AN OFFER AGAINST THIS ENQUIRY, THEN PLEASE ARRANGE TO SEND A LETTER OF REGRET IF YOU HAVE COLLECTED THE TENDER DOCUMENTS FROM BHEL.

DETAILS OF COMPOSITION OF PART-I (TECHNO-COMMERCIAL BID), PART-II (PRICE BID) & PART-III (VENDOR REGISTRATION FORM)

PART-I (TECHNO-COMMERCIAL BID) shall comprise of following documents:

- a. Confirmation to Minimum Qualification Requirement as per Annexure-II (For un-approved vendors only).
- b. Complete technical offer as per specification, technical requirement along with un-priced bid giving FOB and CFR Mumbai separately and delivery schedule.
- c. Validity of offer to be indicated.
- d. **Annexure - I** - Compliance sheet for technical/commercial terms and conditions for two part tender.
- e. **Deviation with reference to specification, if any, should be clearly indicated on a separate sheet.**
- f. Details of activity outsourced.

PART -II (Price Bid)

- a. Price bid with prices to be submitted as part-II of the tender.
- b. Prices should remain firm till the execution of the order.
- c. For Indigenous vendors: please quote your rates on FOR destination - Store-HEEP-BHEL basis. However, the insurance will be arranged by BHEL. You can dispatch the goods through any Indian Bank Association approved transporters having their branch at Haridwar/destination. For your convenience the names and addresses of transporters approved by IBA & BHEL are posted at our hwrnet". If any bidder still quotes on other than FOR destination basis, then his offer will be loaded by maximum freight, packing & forwarding charges quoted by any other bidder from the same or nearby station, against the enquiry/freight rate available with BHEL. Further, non-availability of BHEL approved transporter will not be accepted for re-scheduling the delivery or waiver of penalties on account of delayed delivery.
- d. For foreign vendors: The prices are to be quoted on FOB and C&F Mumbai basis separately. The bids will be evaluated on C&F Mumbai basis. The bidder who quote on other than C&F Mumbai basis then his offer will be loaded by maximum freight, packing & forwarding charges quoted by any other bidder from the same or nearby port against the enquiry/freight rate available with BHEL. Further non-availability of ship will not be accepted for re-scheduling the delivery or waiver of penalties on account of delayed delivery.
- e. In case of FOB, Loading port must be mentioned. Please note that **Ex-Works** price are **not** acceptable & offer shall not be considered.
- f. Insurance – Marine in case of foreign vendor & inland in case of Indigenous vendor shall be taken care by BHEL.
- g. **Prices are to be written in both Figures & Words. In case of any difference between the two, the figure written in words shall be considered for evaluation. No over writing in this is acceptable.**
- h. LD Penalty shall be applicable at the rate of ½ % (half percent) per week or part thereof subject to a maximum of 10%. In case of any variation in LD penalty, your prices shall be loaded to the extent LD penalty not accepted by you.
- i. Payment term shall be "100% payment against dispatch documents, through irrevocable & unconfirmed LC or Cash against Documents (for foreign vendors) with bank charges as either side and "after receipt and acceptance of material" (for indigenous vendors)". **BHEL as a rule do not agree to release advance payment.**
- j. **Difference, if any, in cost in payment terms with respect to BHEL Payment terms ("100% payment against dispatch documents, through irrevocable & unconfirmed LC (for foreign vendors) and after receipt and acceptance (for indigenous vendors)" shall be loaded in prices of vendor.**
- k. Irrevocable LC is opened for one quarter (3 months) & is established 60days prior to delivery schedule. The charges of establishing the LC are on either side i.e. charges in India to be borne by BHEL and charges outside of India to be borne by vendor. If any vendor insists for LC for more than one quarter, vendor has to essentially bear all charges (Within & outside India) for the period exceeding one quarter.

Part-III - Vendor Registration Form (SRF)
(SRF-Foreign Suppliers or SRF-Indian Suppliers)

- a. The SRF (as applicable) duly filled up will be assessed for manufacturing capability quality systems being followed, organizational soundness and financial worthiness. The same shall be submitted with Part-I (Techno-Commercial Bid) by un-registered vendor only with BHEL, HEEP, Haridwar.

MARKING OF ENVELOPE:

- Each envelope is to be super scribed as “TENDER FOR (ITEM NAME) AGAINST TENDER NO. ----- DUE ON -----”.
- Drafts for Tender Fee & EMD to be kept in one envelope – Envelope –A. On the Top of the envelope, please write Draft No., Issuing Bank Details & Amount. Those vendors who are quoting for more than one tender must submit a statement in the envelopes of all those tenders giving details of all the tenders being quoted. However, the draft of each tender should be kept in individual tender envelop.
- Techno-Commercial - Part-I to be kept in another envelope – Envelope-B & to be marked as Techno-Commercial Offer.
- Vendor Registration Form - Part –III to be kept in another envelope – Envelope – C & to be marked as Vendor Registration Form.
- Price Bid – Part-II to be kept in another envelope – Envelope-D & to be marked as Price Bid.
- Envelope-A, Envelope-B, Envelope-C & Envelope-D are to be kept in one envelope super scribed as above

Envelopes not marked as above are liable to be ignored and will not be opened.

ANNEXURE-I

COMPLIANCE SHEET FOR TECHNICAL/COMMERCIAL TERMS AND CONDITIONS FOR TWO PART TENDER

PLEASE FILL THIS ANNEXURE & ATTACH WITH YOUR TECHNO-COMMERCIAL BID.

Offer must be sent in two separate sealed envelopes containing techno-commercial offer in one envelope marked "TECHNO-COMMERCIAL BID" and prices in second envelope marked "PRICE-BID". Both the envelopes must be contained in the main envelope. Tender name and due date to be marked on all the envelopes.

You are requested to kindly confirm /clarify the following:-

S. No.	Description	Vendor's Confirmation
1	Vendor to confirm that they meet each & every clause of specification AA10740 Rev 08.	YES / NO
2	Validity: confirm that validity of the offer shall be 90 days from the date of tender opening	YES / NO
3	Confirm that un-priced part of price bid is enclosed with technical commercial offer	YES / NO
4	Confirm delivery period quoted in terms of months/weeks/days.	YES / NO
5	Confirm that prices are quoted on FOB as well as CFR Mumbai basis (for foreign vendors) and FOR Haridwar basis only (for Indian vendors)	YES / NO
6	Confirm that Loading Port has been mentioned.	YES / NO
7	Confirm that prices shall be firm and fixed throughout delivery period.	YES / NO
8	Confirm that payment term shall be "100% through irrevocable and unconfirmed LC Or Cash against documents" for foreign vendors and "100% after receipt and acceptance of material" for indigenous vendors.	YES / NO
9	LD Penalty shall be applicable at the rate of ½ % (half percent) per week or part thereof subject to a maximum of 10%. In case of any variation in LD penalty, your prices shall be loaded to the extent LD penalty not accepted by you.	YES / NO
10	Confirm that all test certificates to be submitted as per BHEL specification. in TRIPLICATE along with dispatch documents	YES / NO
11	Right of acceptance – BHEL reserves the right to reject any or all quotations without assigning any reasons thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Vendors should be prepared to accept order for reduced quantities without any extra charges. Vendor should also be prepared for giving discount in case of increase in quantity.	YES / NO
12	Confirm specifically that material shall be supplied as per tender documents.	YES / NO
13	Ink signed order acceptance shall be furnished within 15 days of order placement.	YES / NO
14	Confirm if there is Indian agency commission.	YES / NO
15	Please confirm to participate in Reverse Auction on CFR Mumbai basis charges for foreign suppliers. For Indian suppliers, please quote your rates on FOR Destination basis.	YES / NO
16	Confirm acceptance of Risk Purchase clause.	YES / NO
17	Confirm to send original ink signed copy of offer, if offer has been sent through e-mail or FAX or photocopy has been submitted.	YES / NO
18	Vendor to confirm quantity tolerance as +/-10%.	YES / NO

ANNEXURE-II

MINIMUM QUALIFICATION REQUIREMENT for Bar Material for Turbine Blades Grade NiCr20TiAl (Nimonic 80A)

Note: Vendors already approved with BHEL HEPP, Haridwar for enquiry items are exempted from the condition below:

Below points (1 to 7) are mandatory qualification requirements. Offers of vendors not meeting these requirements will not be considered:

1. Vendor must have experience of manufacturing and supplying plates of grade ASTM A240M, type 321 or IS: 6911-1992, Gr: X04Cr18Ni10Ti or EN 10088-2, Gr: X6CrNiTi18-10.

2. a) Details of the experience to be submitted with offer in the format given below:

S. No	Name of customer	Purchase order No	Dimension (ThicknessxWidthxLength)	Year of supply	Quantity

b) Minimum three test certificates of plates, close to minimum and maximum enquiry dimensions, to be submitted with offer. These test certificates must be duly witnessed by third party inspection agency (like Lloyds/TUV/BVIS etc) and pertain to purchase orders listed in support of experience. Self-certification on test certificates shall not be acceptable.

3. Vendor must have in house manufacturing facilities for melting including secondary refining, rolling and heat treatment to manufacture plates as per BHEL specification AA10740 and enquiry sizes. **Outsourcing of any of the above operation is not acceptable.**

4. Details of the manufacturing facilities like melting, secondary refining, rolling and heat treatment are to be submitted with offer.

5. Details of testing facilities (in-house/outsourced) are to be submitted.

6. Vendors to confirm that they will meet all the requirements of BHEL specification AA10740. Clause wise confirmation to be given with offer.

7. Testing and certification as per ordering specification & documents.

Signature with stamp

Name:

Name of Firm:

Designation: Date:

ANNEXURE-III

TERMS AND CONDITIONS OF REVERSE AUCTIONING

Against this enquiry for the subject item /system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING ON INTERNET.

- For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- BHEL will inform the vendor in writing in case of reverse auction, the details of Service Provider to enable them to contact & get trained.
- Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
- Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
- BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHEL” like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
- Reverse auction will be conducted on scheduled date & time.
- At the end of Reverse Auction event, the lowest bidder value will be known on the network.
- The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
- Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
- In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL’s standard practice.

ANNEXURE-IV

(Item Details and Delivery Schedule)

Tender no.	Item Description	Specification & Rev. No.	Size	Qty.	Delivery
F/F219/14/2056/K/OT1	Stainless Steel Plates	AA10740 Rev.08	1) 8x1250x4000mm 2) 25x1250x4000mm 3) 40x1250x4000mm 4) 50x1250x3500mm 5) 70x1250x4000mm 6) 80x1250x4000mm	10MT 24MT 16MT 30MT 7MT 3.2MT	30.01.2015



**AUSTENITIC STAINLESS STEEL SHEETS , PLATES AND STRIPS -
SOLUTION ANNEALED (ASTM A 240M, TYPE 321)**

ORDERING DESCRIPTION

1.0 GENERAL:

The sheets, plates and strips shall conform to the latest version of ASTM A 240M, Type 321 and comply with the following additional requirements.

2.0 APPLICATION :

For general engineering purposes, where corrosion resistance is essential.

3.0 CONDITION OF DELIVERY:

Hot/Cold rolled, solution annealed and descaled (Finish number 1 or 2 B/2D).

4.0 DIMENSIONS AND TOLERANCES

Material shall be supplied to the dimensions specified in BHEL order.

5.0 CHEMICAL COMPOSITION:

As per ASTM A 240M, Type 321.

6.0 TEST CERTIFICATES:

Three copies of test certificates shall be supplied along with the following information:

BHEL References:

AA 107 40 -Rev. No.08 / ASTM A 240M, Type: 321
BHEL order No,

Supplier's References:

Name
Identification No.
Melt No.
Process of manufacture
Details of heat treatment.

Result of Tests:

Dimensional inspection.
Results of chemical analysis, mechanical tests

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It must not be used directly or Indirectly in any way detrimental to the Interest of the company.

CS-936 12/2/14

Revisions : CI.28.4.16 of MOM of MRC-S&GPS			APPROVED: Interplant Material Rationalization Committee-MRC (S&GPS)		
Rev. No. 08	Amd.No.	Reaffirmed	Prepared HARDWAR	Issued Corp. R&D	Dt. of 1st Issue JUNE, 1978
Dt.:09.01.2007	Dt:	Year: 2013			

**7.0 PACKING AND MARKING:**

Sheets shall be supplied in bundles or in packages each weighing upto a maximum of 3000kg. Plates shall be suitably packed to prevent damage during transit.

For plates below 25 mm thick, each pile (preferably of 16 plates) shall be marked with suppliers identification mark, 'AA 107 40 / ASTM A 240M, Type:321, melt No., BHEL order No., on the top plate.

Each plate of 25mm thickness and above shall be stamped/painted with the suppliers identification mark, 'AA 107 40 / ASTM A 240M, Type:321, melt No., BHEL order No., on the top plate.

FOR INFORMATION ONLY**CHEMICAL COMPOSITION**

C	Si	Mn	Ni	Cr	S	P	Ti	N
≤ 0.08	≤ 0.75	≤ 2.0	9.0-12.0	17.0-19.0	≤ 0.030	≤ 0.045	5(C+N) - 0.70, max	0.10

MECHANICAL PROPERTIES

Hardness, max		0.2% PS, min N/mm ²	UTS, min N/mm ²	% El, min	Cold Bend. \hat{I}
BHN	HRB				
217	95	205	515	40	-

CS-936 12/03/14