

Annexure-E - Important Note to New Vendors (Who have not enrolled at SSTP)

The new vendors who had the Digital signature certificate (DSC), PLEASE CLICK THIS LINK TO TAKE YOU TO THE PROCUREMENT SITE -

<https://bheleps.buyjunction.in>,

And also the following will be required to furnish the documentary proof/ information along with their offers:

1. Certificate of registration to supply of Machining Items (copy of certificate given by the govt. to be submitted).
2. Banker's information (copy of bank pass book first page to be submitted).
3. MSME vendor certificate (if applicable).
4. Address of your organization (complete postal address with PINCODE).
5. Contact person's Phone No. /Mobile No. / FAX No. /E-mail ID.
6. Statutory documents – GST REGN / SERVICE etc. (copy to be furnished)
7. NSIC/SSI Certificate (if applicable)
8. ISO Certificate (if applicable)
9. Experience certificate as proof of supply of similar items to any Govt. agencies / PSU / Organisations (copy of PO's to be furnished).
10. Audit Report/ IT Return (if applicable)
11. Agency agreement with manufacturer (if applicable)
12. Partnership Deed (if applicable).
13. Available Heat treatment facilities and confirm point by point of Technical delivery condition.

If the new vendors fail to submit the above documentary proof/information, their offers will not be considered for this enquiry.



General Note:

Page:1/3

PHONE : 91-44-28158821

GRAMS : BHARATELEC

FAX NO:

E-mail :

Web :

OFFICE COPY**Collective No.**

9621700186

Enquiry Date

06.11.2017

**Due Date For
Quotation**

21.11.2017

Please quote Enquiry No, Date and due date in all correspondences.
This is only a request for quotation and not an order

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	SP6921110133 P.P GRIPPER JAW DIA 44.50 MM (30.415/02) P.P GRIPPER JAW DRAWING No. : 30.ST.211.02.415/02 SL.No. : 21 SIZE : 44.50 MM TDC No. : TDC/TE/M FG - 035 REV No. 01 DATE 24.08.2009	SET	8.000	8.00	30.01.18
20	SP6921120015 P.P GRIPPER JAW DIA 54.00 MM (30.416/02) P.P GRIPPER JAW DRAWING NO. : 30.ST.211.02.416/02 SL.NO. : 01 SIZE : 54.00 MM TDC NO. : TDC/TE/MFG - 35 REV.NO. 01 DATE 24.08.2009	SET	6.000	6.00	30.01.18
30	SP6921120125 P.P GRIPPER JAW DIA 51.00 MM (30.416/02) P.P GRIPPER JAW DRAWING NO. : 30.ST.211.02.416/02 SL.NO. : 14 SIZE : 51.00 MM TDC No. : TDC/TE/MFG - 35 REV. No. 01 DATE 24.08.2009	SET	8.000	8.00	30.01.18
40	SP6921124763 P.P GRIPPER JAW DIA 47.63 MM (30.416/02) P.P GRIPPER JAW DRAWING NO. : 30.ST.211.02.416/02 SL.NO. : 15 SIZE : 47.63 MM TDC No. : TDC/ TE/MFG - 35 REV. No. 01 DATE 24.08.2009	SET	4.000	4.00	30.01.18
50	SP6921124830 P.P GRIPPER JAW DIA 48.30 MM (30.416/02) P.P GRIPPER JAW DRAWING NO. : 30.ST.211.02.416/02 SL.NO. : 16 SIZE : 48.30 MM TDC No. : TDC/ TE/MFG - 35 REV. No. 01 DATE 24.08.2009	SET	6.000	6.00	30.01.18

General Note:

This tender is floated thro' E-procurement site and PLEASE CLICK THIS
LINK TO TAKE YOU TO THE PROCUREMENT SITE <https://bheleps.buyjunction.in>,

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of
tenderers who have submitted their offer and who may like to be present for the tender
opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE
(SSTP)

**9621700186 / 06.11.2017****23505**

1. This Tender is floated on TWO-BID basis.
2. Following details are enclosed.
 - a.,Annexure-A - Important Note to Tenderers & Annexure-D Note to MSE Vendors enclosed. enclose your MSE Certificate accordingly.Tenderers are requested to submit their Offers in TWO-BID basis, viz.,
 - I.,Part I,.,.,,Technical and Un-Priced Commercial Bid
 - II.,Part II,.,.,,Price Bid
 - b.,Annexure-B - Technical Conditions
 - c.,Annexure-C - Commercial Conditions
3. Tenderers are required to fill in above Annexure-B and C and enclose them along with their UN-PRICED BID.
- 4.a. Delivery date furnished in the Enquiry is only indicative.
- 4.b. For Delivery Schedule - Pl. refer Clause No. C.4 of Annexure- C.
5. Price Bid of Vendors, who accept the Clause No. B.1 to B.4 of Annexure-B & C.1 to C.5 of Annexure- C. shall only be considered for further processing. Fill the Annexure-B & C and enclose it with Technical and Un-Priced commercial Bid.
For Payment term - Refer Annexure - C Point No. C- 2. Any deviation in the above payment term will attract loading as mentioned below.
For payment term deviation - "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.
Payment through Bank. LC/Advance Payment are liable for rejection.
6. For new vendors, who ever viewed thro' web site, they will be given the documents as per Annexure-E with the technical bid.

Enclosures:**"LD clause has to be confirmed without fail."**

The bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants /service providers shall strictly adhere to BHEL fraud prevention policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

PR Links

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
SP6921110133	120070613	00010	8.000	/000000	
SP6921120015	120070613	00050	6.000	/000000	
SP6921120125	120070613	00040	8.000	/000000	
SP6921124763	120070613	00020	4.000	/000000	
SP6921124830	120070613	00030	6.000	/000000	

list of suppliers

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE
(SSTP)



9621700186 / 06.11.2017		23505
RFQ-5200006501 Open Tender Dummy Code		
The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.		Yours faithfully, For BHARAT HEAVY ELECTRICALS LIMITED MANAGER / PURCHASE (SSTP)

IMPORTANT NOTE TO TENDERERS
(FOR INDIGENOUS & OVERSEAS SUPPLIERS)

This Tender is floated on TWO-BID System. Tenders are requested to submit their offers in TWO-BIDS (Part I: Un priced bid and Part II: Price Bid) separately.

1. **Part I: UN PRICED BID:** (Complete with technical & Commercial conditions as per enquiry The Tenderer should confirm their acceptance / comments to the Enquiry along with other commercial Terms & Conditions of the Tender. In case any deviation is taken by the Tenderer from the Tender requirements, it is to be clearly indicated in the offer with reference to the particular clause. If such deviations are not explicitly indicated in the offer, it will be construed by BHEL that the Tenderer is complying with Annexure Clause(s), Commercial terms & conditions and other conditions in full.
2. **Part II: PRICE BID:** Price (with break-up details wherever required) to be indicated.
3. **Both Un priced Bid and Price Bid is** to be submitted before 1400 hours (Indian Time) on tender Due Date.
4. Unpriced Bid shall only be opened on the Tender Due Date mentioned in the Tender online.
5. After opening the Unpriced Bid, they shall be evaluated by BHEL for their suitability. BHEL shall hold discussions with the responded Tenderers on the Technical and Commercial terms and freeze the terms & conditions of the offer. These frozen technical specifications will be communicated to responded tenderers.
6. BHEL shall offer opportunity to the responded and technically / commercially suitable Tenderers, to submit their latest Price Bid/ Impact of prices, if any in line with the frozen technical, Commercial, delivery conditions.
7. This latest Price Bid & the Impact of prices for the frozen technical specifications submitted by the Tenderers will be opened. Based on the above, the ranking of the Tenderers shall be made and accordingly the Tender shall be finalized.

Annexure-D

Important Note to MSE Vendors

1. 20% of the tendered quantity is earmarked for MSE suppliers in this tender.
2. Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC / ST entrepreneurs.
3. In case MSE vendor participating in the tender quotes within the price band of L1 + 15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.
4. MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II certificate having deemed validity (Five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with CA certificate (Format enclosed) applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier till the supplier submits these documents.

Certificate by Chartered Accountant

This is to Certify that M/S, (hereinafter referred to as 'company') having its registered office at..... is registered under MSMED Act 2006, (EntrepreneurMemorandum No (Part—II).....dtd:....., Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as on date as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises: Investment in plant and machinery** (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.5.0.1722(E) dated October 5, 2006: **Rs. Lacs**

2. **For Service Enterprises: Investment in equipment** (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006: **Rs. Lacs**

The above investment of Rs Lacs is within permissible limit of Rs Lacs for Micro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

Annexure – B.
Technical Conditions

Vendor Code:	Vendor Name:	
Tender No.:	Tender Date:	Tender Due Date:
Sl.No.	Technical Requirement	Accepted
B. 1.	To supply of Materials as per Tender specifications / Drawing without any deviation.	
B. 2.	The following Test certificate will be sent along with the supply, 1. Raw material Chemistry – from NABL accredited Lab certificate. 2. Hardness & Temperature time recorder graph for heat treatment cycle followed. 3. LPT 4. Dimension report	
B. 3.	To supply of materials with suitable preservation and packed suitably.	

Annexure – C.
Commercial Conditions

Sl.No.	Commercial Terms	Accepted				
C1.	<u>Delivery Terms</u> : Free delivery at BHEL/SSTP Stores.					
C2.	<u>Payment</u> : 100% after 45 days after receipt and acceptance of materials by BHEL					
C3.	<u>LIQUIDATED DAMAGES:</u> It is clearly understood among the parties to the Contract that TIME IS THE ESSENCE OF THE CONTRACT. Therefore, the delivery of the goods specified in the Purchase Order shall be made within the time prescribed. Where the Seller supplies or despatches the goods, beyond the delivery period specified, and the Purchaser will have no obligation to accept the goods. If accepted, Liquidated Damages at the rate of 0.5% (Zero point five Percent) of the total value of goods delayed, per week of delay, subject to a maximum of 10% (Ten Percent) or part thereof, will be levied without prejudice to any other relief or compensation due to the Purchaser under any other conditions of the Contract. <u>RISK PURCHASE:</u> Alternatively, the Purchaser, at his option, will be entitled to terminate the Contract and to purchase elsewhere at the risk and cost of Seller, either the whole of the goods or any part, which the Seller has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available the best and nearest available substitute thereof. The Seller shall be liable for any loss, which the Purchaser may sustain by reason of such Risk Purchase(s), in addition to penalty at the rate mentioned above.					
C4.	<u>Delivery period required</u> : <table><tr><td>Delivery from PO Date</td><td>Enq.Sl. Nos. 1 to 5</td></tr><tr><td>Within 2 Months</td><td>All Quantity</td></tr></table>	Delivery from PO Date	Enq.Sl. Nos. 1 to 5	Within 2 Months	All Quantity	
Delivery from PO Date	Enq.Sl. Nos. 1 to 5					
Within 2 Months	All Quantity					
C5.	Validity of Offer - 60 Days from the Date of Tender Opening.					

Sl.No.	Commercial Terms	
C6.	a. GST HSN No.	
	b. GST (%)	
	C. GST Regn & PAN No.	
C7.	Other Cost (if any) - % (or) Rs.	
C8.	Are you Micro/Small/Medium Industry? (If YES, please furnish MSE Regn.No., along with a copy of MSE Certificate)	YES / NO MSE No. MSE Certificate enclosed(Yes/NO)
C9.	Contact detail Name Mobile No. Mail Id	
C10.	<u>Deviations, if any (attach additional sheet, if reqd) :</u>	

Signature with Date :
Seal :

TERMS AND CONDITIONS OF ENQUIRY On Line thro' <https://bheleps.buyjunction.in>,

1.0 OFFER

1.1 Each Tender shall be given **On Line thro' <https://bheleps.buyjunction.in>**

1.3 Rate(s) shall be net F.O.R./BHEL-SSTP STORES, inclusive of risk in transit and remain valid for 60 days from the Enquiry Due/other Taxes/Duties.

1.4 If any Sales Tax and/ or Excise Duty and/ or other Taxes/Duties is/are payable as extra to the quoted Rate, it shall be specifically stated in offer, failing which the Purchaser will not be liable for payment of Sales/Excise Duty/other Taxes/Duties.

1.5 No voluntary revision of prices will be entertained after opening the Tender(s).

1.6 Manufacturer's Name, Trade Mark or Patent No., if any, shall be specified. Illustrative leaflets giving technical particulars are required along with the Offer, wherever necessary.

1.7 Products with I.S.I. Certification Marks will be preferred.

1.8 The Purchaser shall be under no obligation to accept the Lowest Tender or any other Tender. The Purchaser shall be entitled to accept or reject any Tender, in part or full, without assigning any reason whatsoever.

1.9 The Purchaser also reserves the right to allow the Purchase Preference Facilities to the Public Enterprises, as admissible under Government Policy and Amendments thereto from time to time.

1.10 BHEL reserves the right to increase or decrease the Tender Quantity and split the Tender Quantity among more than one Tenderer and place Orders accordingly in proportion, based on commitment, requirement and Supplier's capability in terms of delivery and quality.

1.11 Lowest Rate received against Tender(s) need not be the technically acceptable L-1 Rate and BHEL reserves the right not to consider the same.

1.12 BHEL reserves the right to negotiate or re-float the opened Tender, if L-1 rate is not the lowest acceptable rate to them, inter-alia other reasons.

1.13 BHEL reserves the right to negotiate the L-1 Rate.

1.14 BHEL may order more than one Vendor at the lowest acceptable Rate.

2.0 **SAMPLES:** Wherever possible, samples shall be submitted separately whether specifically requested or not, so as to reach the Purchaser on or before the Enquiry Due Date. They shall be clearly marked with the Enquiry No. and Enquiry Date, on the cover to facilitate identification.

3.0 **PACKING AND MARKING:** The Seller shall arrange for securely protecting and packing the stores to avoid loss or damage during transit.

4.0 **TERMS OF PAYMENT:** 100% Payment will be made after 45 days of receipt & acceptance of materials at BHEL. Wherever required by the Purchaser, the successful Tenderer must send the Operation and maintenance Manual(s), Test Certificate(s), Drawing(s) etc., for the materials ordered, along with the materials and a statement to that effect shall be made in the invoice. Failure to comply with this provision, will result in delay in payment of the Bill(s), Goods dispatched either by V.P.P. or routing the documents through Bank, will not be accepted unless agreed to by the Purchaser.

5.0 **LIQUIDATED DAMAGES:** It is clearly understood among the parties to the Contract that TIME IS THE ESSENCE OF THE CONTRACT. Therefore, the delivery of the goods specified in the Purchase Order shall be made within the time prescribed. Where the Seller supplies or despatches the goods, beyond the delivery period specified, and the Purchaser will have no obligation to accept the goods. If accepted, Liquidated Damages at the rate of 0.5% (Zero point five Percent) of the order value, per week of delay, subject to a maximum of 10% (Ten Percent) or part thereof, will be levied without prejudice to any other relief for compensation due to the Purchaser under any other conditions of the Contract.

6.0 **RISK PURCHASE:** Alternatively, the Purchaser, at his option, will be entitled to terminate the Contract and to purchase elsewhere at the risk and cost of Seller, either the whole of the goods or any part, which the Seller has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available the best and nearest available substitute thereof. The Seller shall be liable for any loss, which the Purchaser may sustain by reason of such Risk Purchase(s), in addition to penalty at the rate mentioned in Clause No.05 above.

7.0 CENVAT CREDIT:

7.1 Please explicitly indicate the following in the Offer to enable us to avail CENVAT Credit.

7.1.2 Central Excise Chapter Heading Number, under which the goods will be cleared and Present Rate of Excise Duty.

7.2 In the event of an Order being placed, Excise Duty will be reimbursed only based on the Duplicate Copy EXCISE INVOICE (Transporters Copy), Seller shall take acknowledgement from the authorized personnel/transporter, while delivering the goods, for having handed over the above Duplicate Copy.

7.3 If the Seller is a First Stage Dealer/Second Stage Dealer/Depot/Consignment Agent/Importer/Importer-Agent, the Seller has to confirm that the will be following the procedures in terms of the provisions of Central Excise Rule s-2002 to enable BHEL to avail CENVAT Credit, under CENVAT Credit Rules-2002.

7.4 All the time of submission of Invoice(s), the Seller is required to furnish the following Certificate.

The Amount of Rs. (Rupees in words.) claimed as CENVAT in the Bill is in accordance with the provisions of the Rules in all respects and that the same has been paid to the Central Excise Authorities in respect of the materials covered by the Bill.

8.0 **GENERAL:** And other conditions which might have been quoted by the Seller and are in contravention to the Terms prescribed in the Tender/Order and which have not been specifically accepted by the Purchaser, will not be applicable to the Contract and BHELs standard Terms and Conditions shall only be applicable.

9.0 IMPORTANT NOTE:

9.1 In the event of quoting Packing and Forwarding charges extra in the offer, the Packing charges and Forwarding charges shall be separately quoted and shall not be combined. Also please note that no Excise Duty and Sales Tax shall be payable on Forwarding charges. In case this is not complied with, corresponding Excise Duty and Sales Tax on packing charges will not be paid.

9.2 Tenderer is requested to furnish all the details called for in the Tender. In case any required data/information is / are not furnished in the Offer, Purchaser reserves the right to assume the same for the purpose of evaluation/comparison and decide the Tender accordingly.

10.0 Important Note to MSE Vendors:

10.1 20% of the tender quantity is earmarked for MSE suppliers in the tender.

10.2 Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be for procurement from MSE owned by SC/ST entrepreneurs.

10.3 In case MSE vendor participating in the tender quotes within the price band of L1 + 15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.

10.4 MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II certificate having deemed validity five years from the date of issue with CA certificate (Format enclose) applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or Small) where the deemed validity of EM IIs over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission.

10.5 Non submission of such documents will lead to consideration of their bids at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier till the supplier submits these documents.

Processflow of OPEN TENDER		
Module	Steps	Remarks
Supplier Registration	Supplier visits EPS at https://bheleps.buyjunction.in . Clicks "NEW SUPPLIER" button for registration. Fills up the Registration form.	
	<u>REGISTERED SUPPLIERS :</u> For registered suppliers, they can select the ENLISTED option & complete their registration with their existing vendor code.	
	<u>UNREGISTERED SUPPLIERS :</u> For un-registered suppliers, they can select the INTERESTED option & complete their registration with their preferred Login Code.	
	Supplier maps their digital certificate at the time of registration.	
Authentication of registration	MIjunction will ensure Authentication of vendor registration as PAN BHEL basis.	
Bid Submission	Supplier will login using his/her login ID & password	
	View the RFQs under OPEN TENDER section	
	Suppliers will show their INTEREST to participate	
	Respond to RFQ	
	Upload details of TENDER FEE & EMD with the valid document proof (as attachment)	
	Uploads Pre-qualification docs, Fills Techno-commercial & Price template	
	Submits Quotation	

Part I Opening & Evaluation

2. Registration of Suppliers and Flow.

unregistered Supplier: Supplier visits EPS at <https://bheleps.buyjunction.in>

- a. Supplier visits EPS at <https://bheleps.buyjunction.in>
- b. Clicks "REGISTER" for registration
- c. Fills up the Registration Page form
- d. MJ will ensure Authentication of Registration ¹
- e. Supplier logs in with the ID and password
- f. Supplier Maps the signing Certificate
- g. MJ will ensure the authentication the signing certificate ¹.
- h. Supplier Logs in to the system again and views the RFQ
- i. Supplier Attaches himself to the RFQ by clicking the Interested button
- j. Supplier fills the bid template and makes necessary attachments
- k. Supplier submits his bid by clicking CONFIRM.

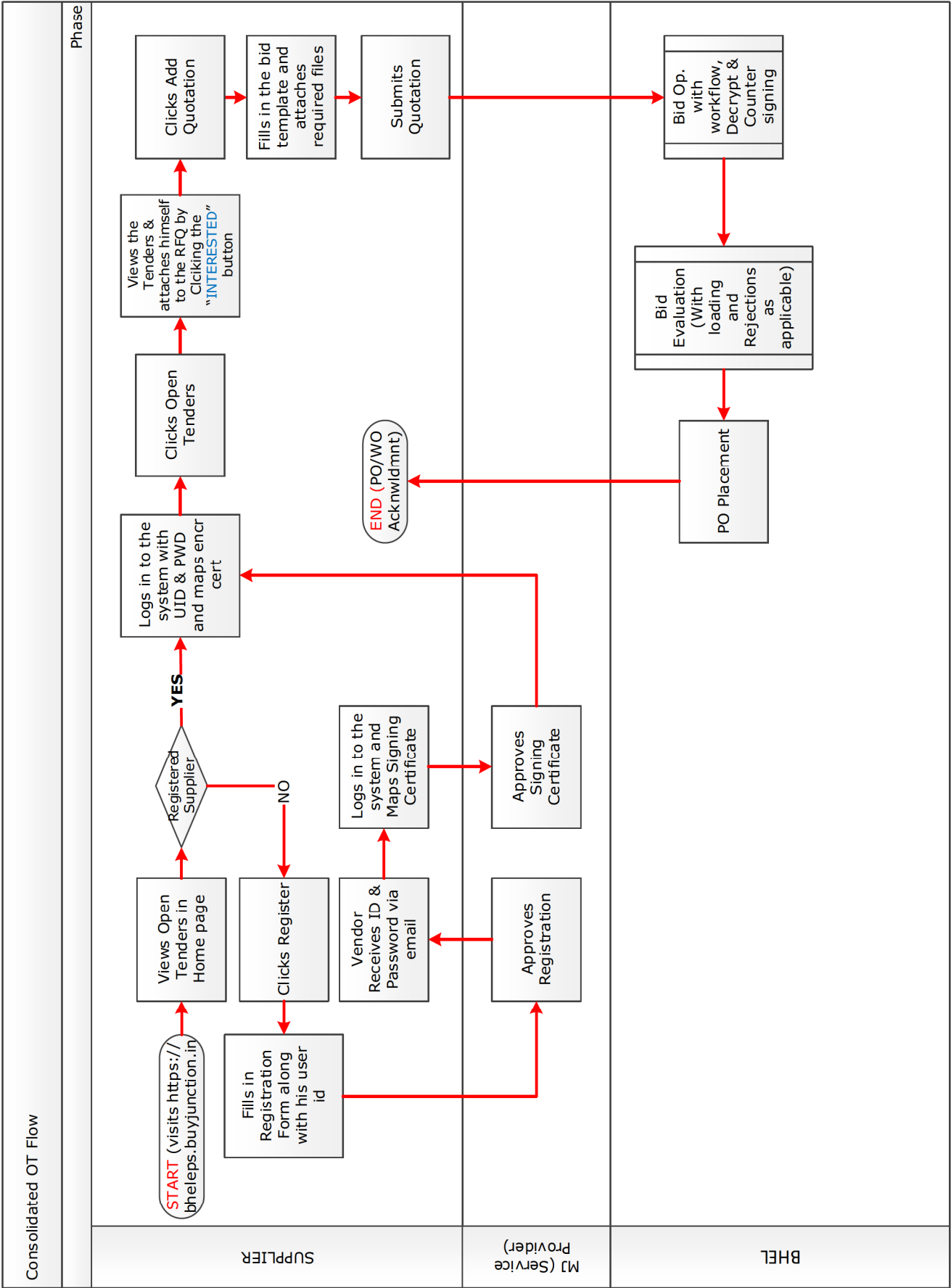
NB:-

¹ -- BHEL Administrator or user will have no role for approving Registration and Open Tenders and DSC for Any supplier who has registered himself from the front END which is in case of OT.

- **For registered Supplier:**

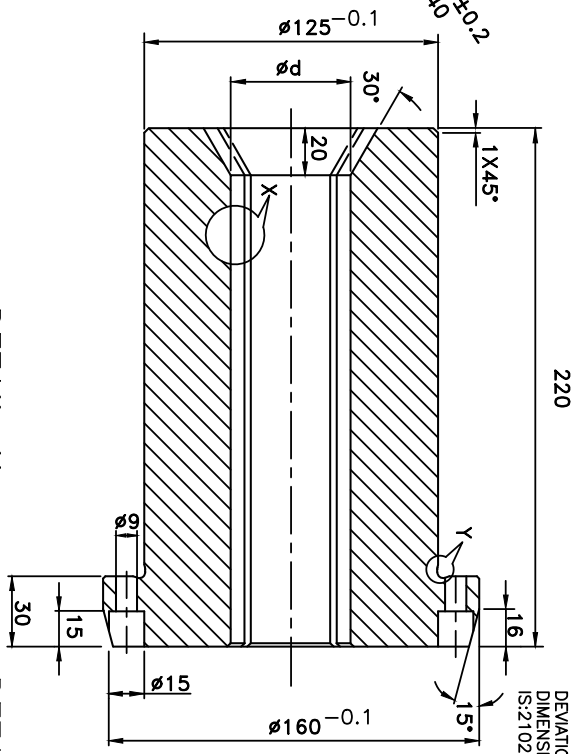
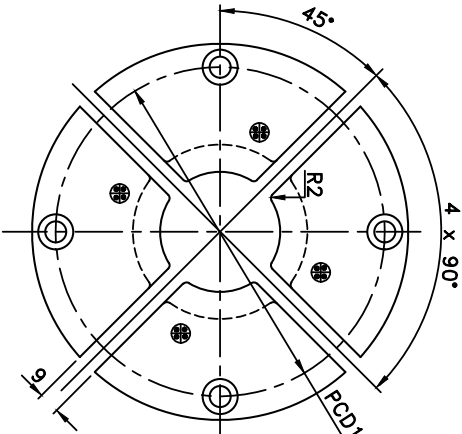
- Supplier visits EPS home page
- Supplier signs in with his/her user id and password
- Selects the RFQ Code and views it.
- Attaches himself to the RFQ by clicking the Interested button
- Supplier fills the bid template and makes necessary attachments
- Supplier submits his bid by clicking CONFIRM.

12. Consolidated Flow Diagram of OT process



THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD
CAUTION: IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANYWAY DETERMINAL TO INTEREST OF THE COMPANY

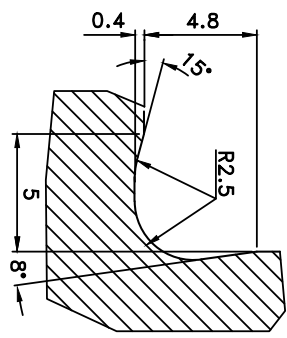
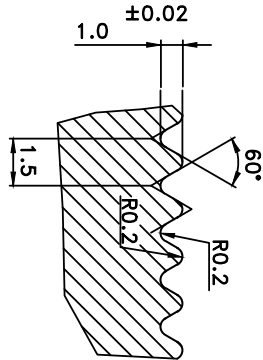
SL No.	Ød	WT.Kg	MATERIAL	CODE	No.
01	54	18.4	69 21 12 001	5	
02	55	18.3	69 21 12 002	3	
03	57	18.0	69 21 12 003	1	
04	60.3	16.3	69 21 12 004	0	
05	62	16.1	69 21 12 005	8	
06	63.5	17.3	69 21 12 006	6	
07	70	16.4	69 21 12 007	4	
08	73	15.8	69 21 12 012	0	
09	75.4	15.3	69 21 12 013	9	
10	76.1	15.0	69 21 12 008	2	
11	81	14.8	69 21 12 009	0	
12	82.5	14.5	69 21 12 010	4	
13	88.9	13.5	69 21 12 011	2	
14	51	19.1	69 21 12 012	5	
15	47.63	13.4	69 21 12 476	3	
16	48.3	13.2	69 21 12 483	0	
17	66.0	16.8	69 21 12 014	0	



DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE ASPER
IS:2102-1969 MEDIUM.

DETAIL-X
(SCALE 10:1)

DETAIL-Y
(SCALE 5:1)



SL No	MATERIAL	C	Si	Mn	Cr	P	S	Mo	V
01	X210Cr12 (DIN 1.2080)	1.9	0.2	0.2	11.0	0.035 MAX.	0.035 MAX.	-	-
02	XT215Cr12 (IS:3748-1990)	2.0	0.10	0.25	11.0	0.035 MAX.	0.035 MAX.	0.80 MAX.	0.80 MAX.

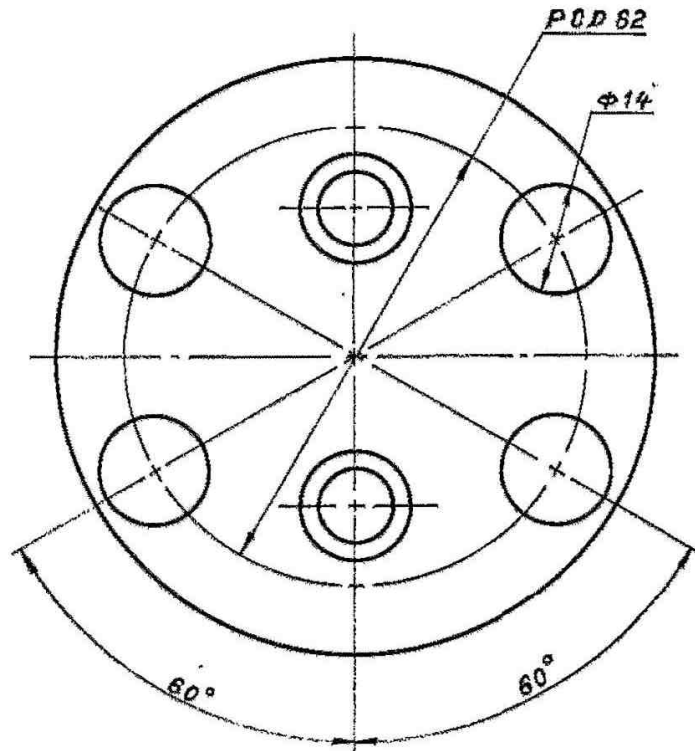
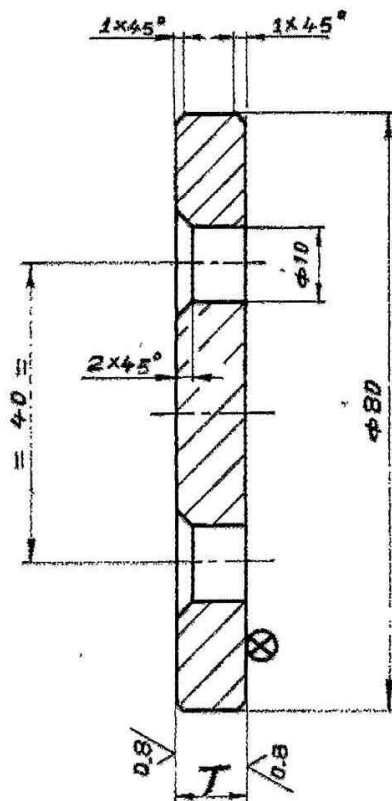
HARDEN AND TEMPER TO 58±2HRC
SUPPLY TO BE AS PER TDC/TE/MFG-35

REV	DATE	ALTERED :	DEPT	T E	GRADE OF UNTOL. DIM	SCALE	1:2	WEIGHT(Kg)	APPRO	NAME	SIGNATURE	DATE
01	28.11.02	SL.No. 14(651)ADDED.	01	28.11.02	SL.No. 14(651)ADDED.	10:1	5:1			R.KUMAR		12.02.09
02	12.02.09	EQUIL.MATL:IS:3748-1990 XT215Cr12 WAS SLT. DIMN.9WAS6&RELIEF DIMN.20X30WAS10X30 GROOVE DIMN.DEPTH1.0WAS0.46&PITCH1.5WAS1.0 SL.No:15 AND 16 ADDED.	02	12.02.09	EQUIL.MATL:IS:3748-1990 XT215Cr12 WAS SLT. DIMN.9WAS6&RELIEF DIMN.20X30WAS10X30 GROOVE DIMN.DEPTH1.0WAS0.46&PITCH1.5WAS1.0 SL.No:15 AND 16 ADDED.							
GRIPPER JAWS(Ø54-88.9) (POINTING M/C)										U 01	30.ST.211.02.416	02

REV 01	DATE 01/01/82	ALTERED R. Kumar	REV 02	DATE 03/5/92	ALTD CHD
ZONE	DIMN. 9.5 WAS 7.5		TABULAR COLUMN ADDED FOR THICKNESS 'T' WAS 9.5 ONLY		

1.5/ 0.8/

DEVIATIONS OF UNTOLERANCED DIMENSIONS TO BE AS PER DIN 7168 MEDIUM



SL No	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
THICKNESS 'T'	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5

CHAMFER EDGES TO 0.5x45°

⊗ ASSY. NOTE : GRIND THE FACE (max. 2.5 mm) TO SUIT ASSY.

	φ62 x 9.5	St 42	
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY

00.006 33



Bharat Heavy Electricals Ltd.,

SEAMLESS STEEL TUBE PLANT

TIRUCHIRAPALLI - 620 014

DRN	NAME R. Kumar	SIGN	DATE 01/01/82
CHD	S. Kumar		
APPD	R. Kumar		

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0.28	REF TO ASSY/OLD DRG D107048-10.027	ITEM NO.
TITLE SPACER PLATE			CARD CODE U 01	DRAWING NO. 40.ST.115.01.060	REV

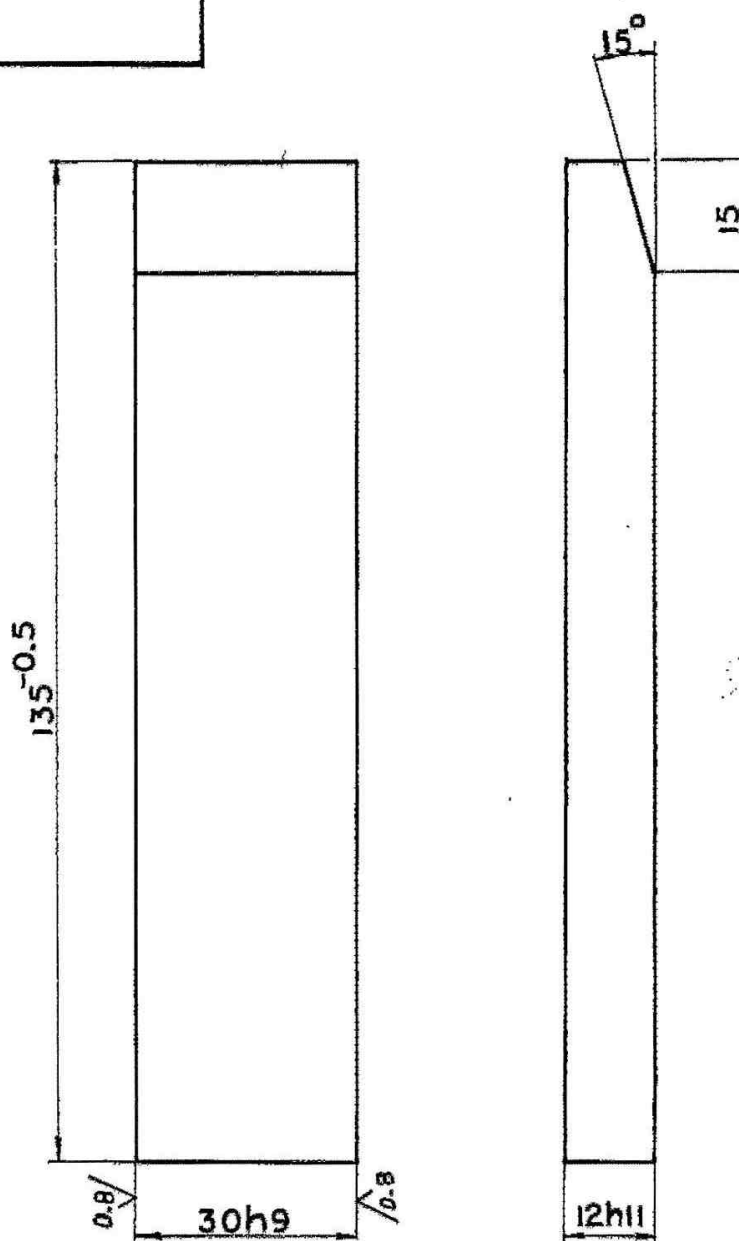
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REV 01	DATE 310584	ALTERED <i>R. Kumar</i>
ZONE		CHECKED
0.8 SURFACE FINISH ADDED		

DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER
DIN 7168 MEDIUM

1.6/0.8/

30h9	0 -0.052
12h11	0 -0.110



CHAMFER EDGES TO 1 X 45°

00.ST.115.01.006 45

MATERIAL CODE
No. 69 11 11 0432

	12 x 30 x 135	C45	
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY



Bharat Heavy Electricals Ltd.,

SEAMLESS STEEL TUBE PLANT

TIRUCHIRAPALLI-620 014

DRN	NAME <i>R. Kumar</i>	SIGN	DATE 24.04.81
CHD	<i>S. Subramanian</i>		
APPD	<i>R. Thangaj</i>		

DEPT CODE	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0,35	REF TO ASSY/OLD DRG 0107048-10.042	ITEM NO.
TITLE KEY			CARD CODE U 01	DRAWING NO. 40.ST.115.01.072	REV. 01

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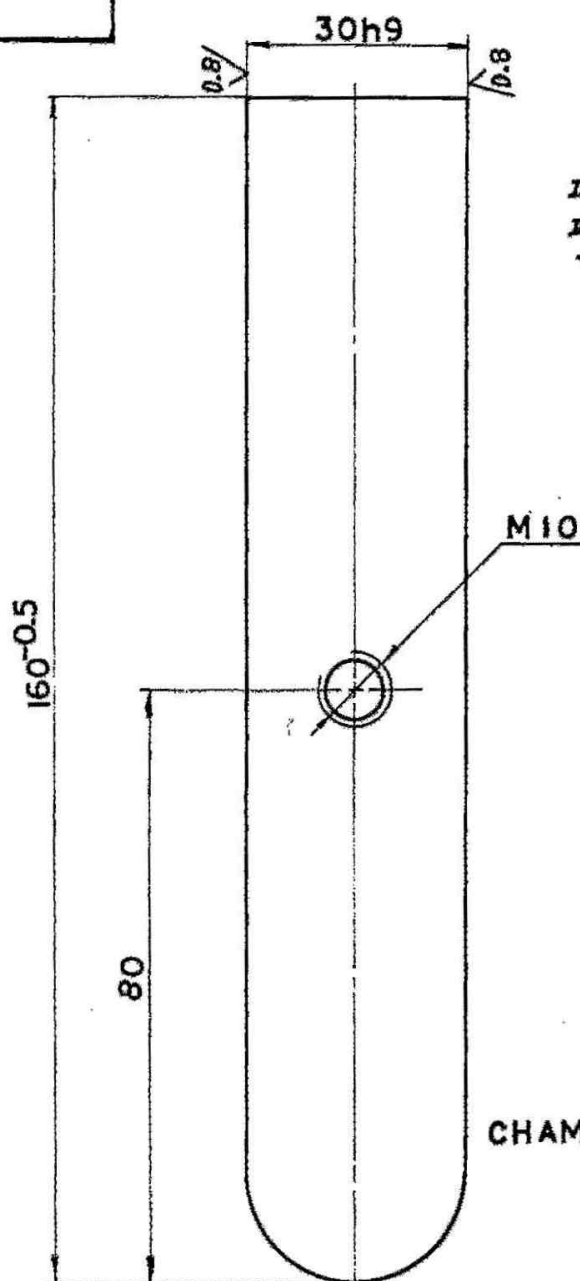
REV 01	DATE 310581	ALTERED <i>R. Kumar</i>
		CHECKED
ZONE	0.8 SURFACE FINISH ADDED	



1.6/ 0.8/

30h9	0 -0.052
12h11	0 -0.110

DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER DIN
7168 MEDIUM



CHAMFER EDGES TO 1X45°

00.ST.115.01.006 46

	12 x 30 x 160	C45	
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY



Bharat Heavy Electricals Ltd.,

SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

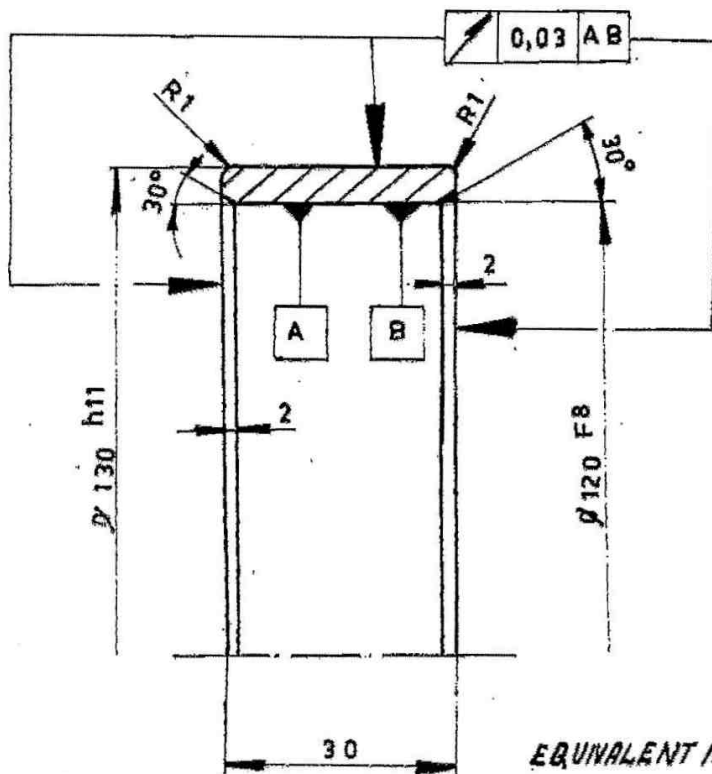
DRN	NAME <i>R. Kumar</i>	SIGN	DATE 24 04 81
CHD	<i>S. Subash</i>		
APPD	<i>R. Thangam</i>		

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0.4	REF TO ASSY / OLD DRG 0107048-10.043	ITEM NO.
CODE					
TITLE KEY			CARD CODE U 01	DRAWING NO. 40.ST.115.01.073	REV. 1

OI	DATE	ALTERED <i>R. Kumar</i>
	20/5/09	CHECKED
ZONE	ALL SURFACES ARE GIVEN <i>0.8</i> FINISH INSTED <i>OF</i> DN ϕ 130h11	

120	F 8	+0.090 +0.036
130	h 11	0 -0.250

0.8



BATH NITRIDED
MIN COAT THICKNESS *0.01*
HARDNESS 60 HRC

TEMPERED
 $\sigma_B = 900 \pm 200 \text{ N/mm}^2$

EQUIVALENT MATERIAL: 15:1570-40Cr/Mo2B
BREAK EDGES 0.3

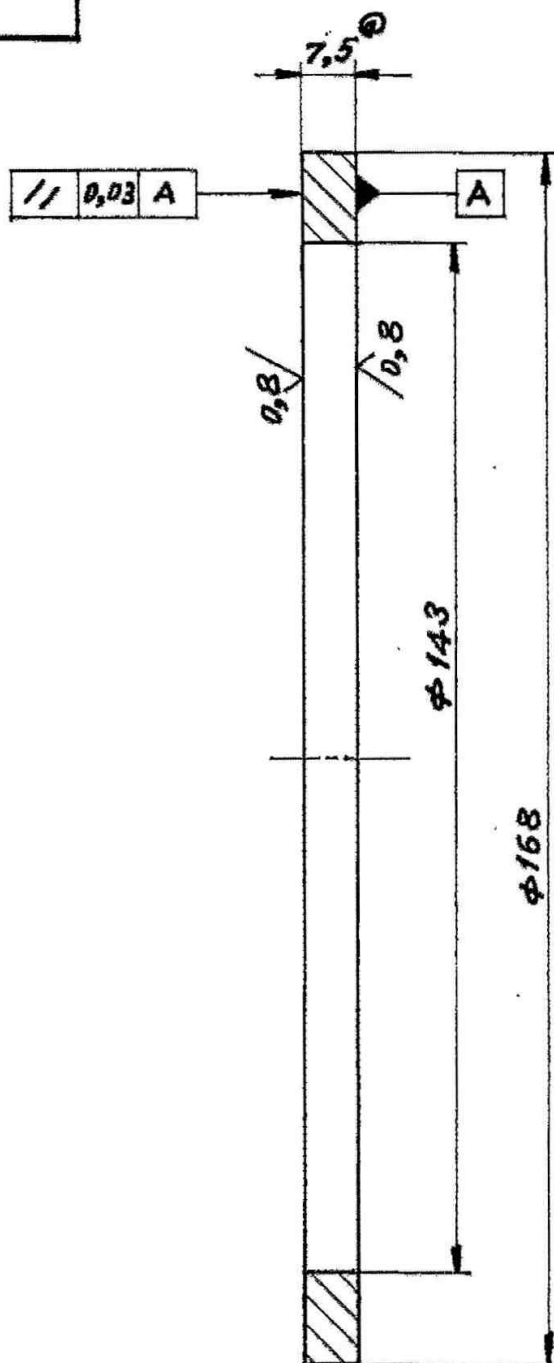
				42-CF-M04								
15	17	20	21	RVN	34	54	57	63	68	75	76	20
STYLE No.	ITEM No.	BPS	REF. DRG./BPS No.	32	44	A	COMP. GROUP	UNIT wt. (kg)	No. OFF	DESCRIPTION/REMARKS		
				STL	MATERIAL SPECN.	C						
CARD TYPE 1												CARD TYPE 2
BILL OF MATERIAL No.												
FIRST ANGLE		SCALE		DRAWN		TOTAL wt. (kg)		0.45				
		1:1		CHECKED		TYPE						
				APPROVED		00-ST-115-01-006 42						
ALL DIMENSIONS IN MILLIMETRES		DATE				NEW/OLD DRG. No.		R10704B-10039				
CAUTION						TITLE						
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED., TIRUCHY-620 014. AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.						RING						
05-249						DRAWING No.				REVISION		
CARD CODE						40-ST-115-01-069				01		
UOI												

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

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REV 01	DATE 31/12/81	ALTERED <i>[Signature]</i>
CHECKED <i>[Signature]</i>		
ZONE DIMN. 7,5 WAS 5		

1,6 / 0,8 /



DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER
DIN 7168 MEDIUM

ASSY NOTE:-

THICKNESS CAN BE REDUCED (Max 2,5mm.) TO SUIT ASSY.

MATERIAL:- C45.



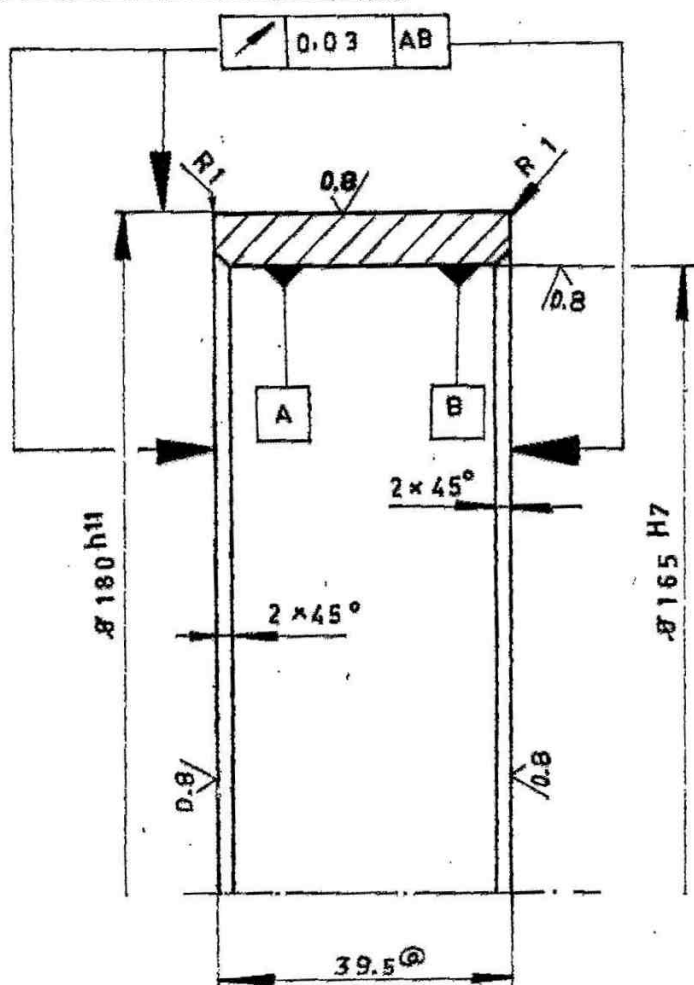
Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME G.K. MURTHY	SIGN <i>[Signature]</i>	DATE 31.12.81.
CHD	<i>[Signature]</i>		
APPD	<i>[Signature]</i>		

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0,24	REF TO ASSY/OLD DRG 00-ST-115-01-006 0107048-10038	ITEM NO. 41
CODE	TITLE RING		CARD CODE U 01	DRAWING NO. 40-ST-115-01-068	REV 01

OI	DATE	ALTERED <i>R. Kumar</i>
	31/12/91	CHECKED <i>S. Subramanian</i>
ZONE	DIMN. 39.5 WAS 37	

180 h11	0 -0.250
165 H7	+0.040 0



DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER DIN
7168 MEDIUM

TEMPERED
QB = 900+200 N/mm²

BREAK EDGES 0.3

ASSY NOTE: THICKNESS CAN BE REDUCED (max. 2.5 mm) TO SUIT ASSY.

MATERIAL: 42 Cr Mo 4

EQUIVALENT MATERIAL: IS 1570 40 Cr 1 Mo 2 B

BATH NITRIDED MIN. COAT THICKNESS 0.01 HARDNESS 60 HRC

FIRST ANGLE 	SCALE 1:1	DRAWN	<i>R. Kumar</i>	TOTAL wt. (kg)	1.2
		CHECKED	<i>S. Subramanian</i>	TYPE	
		APPROVED	<i>R. Theg</i>	00.ST.115.01.006	40
ALL DIMENSIONS IN MILLIMETRES		DATE		NEW/OLD DRG. No.	010704B-10037

CAUTION



05-249

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OR PART THEREOF FOR ANY OTHER PURPOSE
THAN FOR WHICH IT IS SENT TO YOU.

TITLE

RING

CARD
CODE
UOI

DRAWING No.

40-ST-115-01-067

REVISION

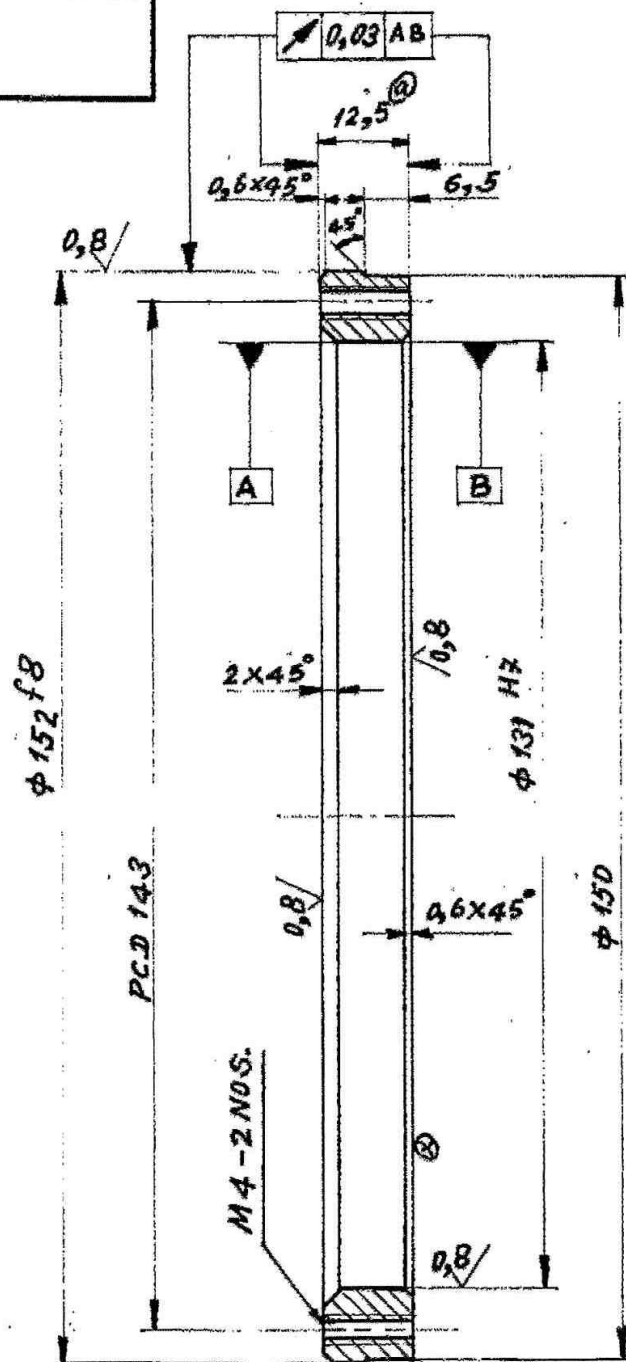
0.1

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

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REV 01	DATE 31/12/81	ALTERED <i>[Signature]</i>
		CHECKED <i>[Signature]</i>
ZONE	12,5 WAS 10	

1,6 / 0,8 /



131 H7	+0,040 0
152 f8	-0,043 -0,106

DEVIATIONS OF UNTOLERANCED DIMENSIONS TO BE AS PER DIN 7168 MEDIUM

Ⓢ ASSY NOTE:-

GRIND THE FACE (MAX. 2,5mm) TO SUIT ASSY.

MATERIAL: C45

BREAK EDGES 0,3



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME G.K. MURTHY	SIGN <i>[Signature]</i>	DATE 31.12.81
CHD			
APPD	R. [Signature]		

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0,35	REF TO ASSY/OLD DRG 00. ST. 115. 01. 006 0107048-10.017	ITEM NO. 26
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TITLE ADAPTER RING	CARD CODE U 01	DRAWING NO. 40-ST-115-01-053	REV. 01
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3.2	1.6	0.8
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DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER
IS: 2102 - 1969 MEDIUM.

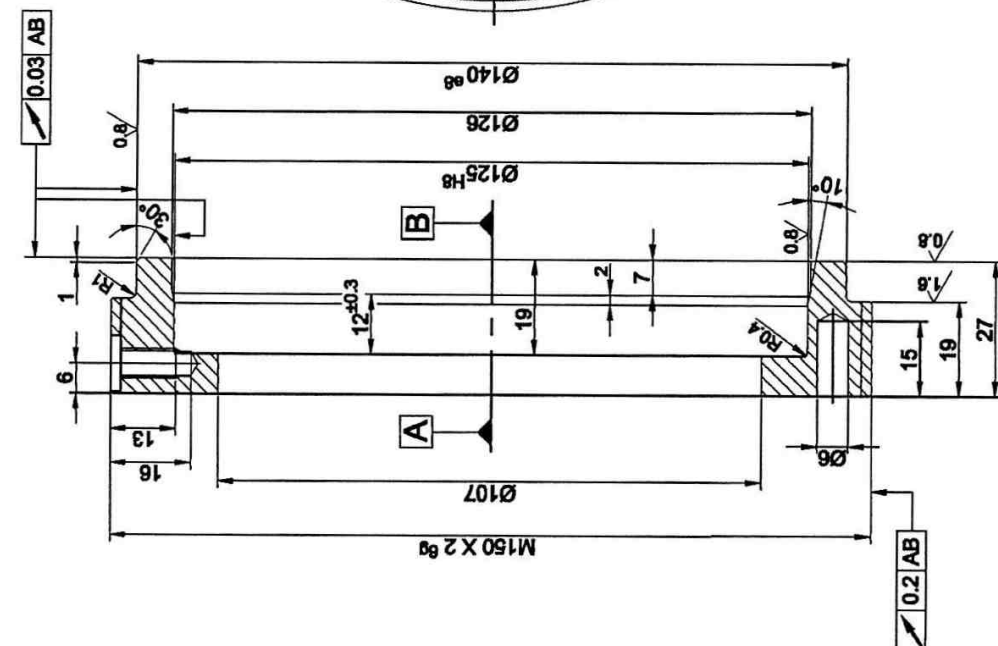
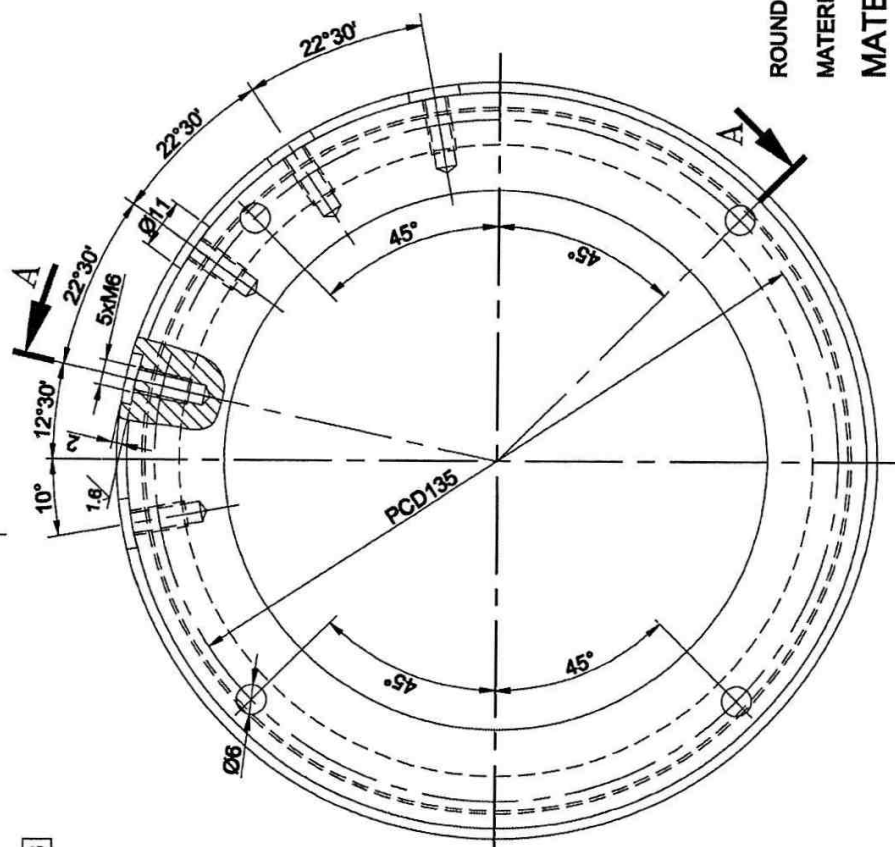
125	H 8	+0.063 0.0
140	e 8	-0.085 -0.148

ROUND THE SHARP EDGES.

MATERIAL : 45 C8 (IS:1570 PART II -1979)

MATERIAL CODE NO:69 11 11 017 3

M 150 X 2	2	MAX.	149.962	MAX.	148.663
		MIN.	149.682	MIN.	148.473
THREAD SPECN.	PITCH	MAJOR Ø		PITCH Ø	



SECTION - AA



Bharat Heavy Electricals Ltd
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI - 620014

TIRUCHIRAPALLI - 620014

REV		DATE	ALTERED : ed	DEPT	TE	GRADE OF UNTOLD DIM C/M/F	SCALE	WEIGHT(Kg)	APPRO	REF TO ASSY DWG NO	ITEM NO		
01		18/03/08	CHECKED : ed APPROVED		CODE			1:1		00-ST-115-01-006	17		
TOLERANCE 8g IS ADDED.													
REV		DATE	ALTERED : M.Bhawa	TITLE								REV	
02		19/03/09	APPROVED S.Karuppesamy	THREADED RING								30.ST.115.01.078	02
MATERIAL CHANGED: 45 C8													
(IS:1570 PART II - 1979) WAS C45													
DRAWING NO : 0107048-10-022													
CARD CODE U 01													

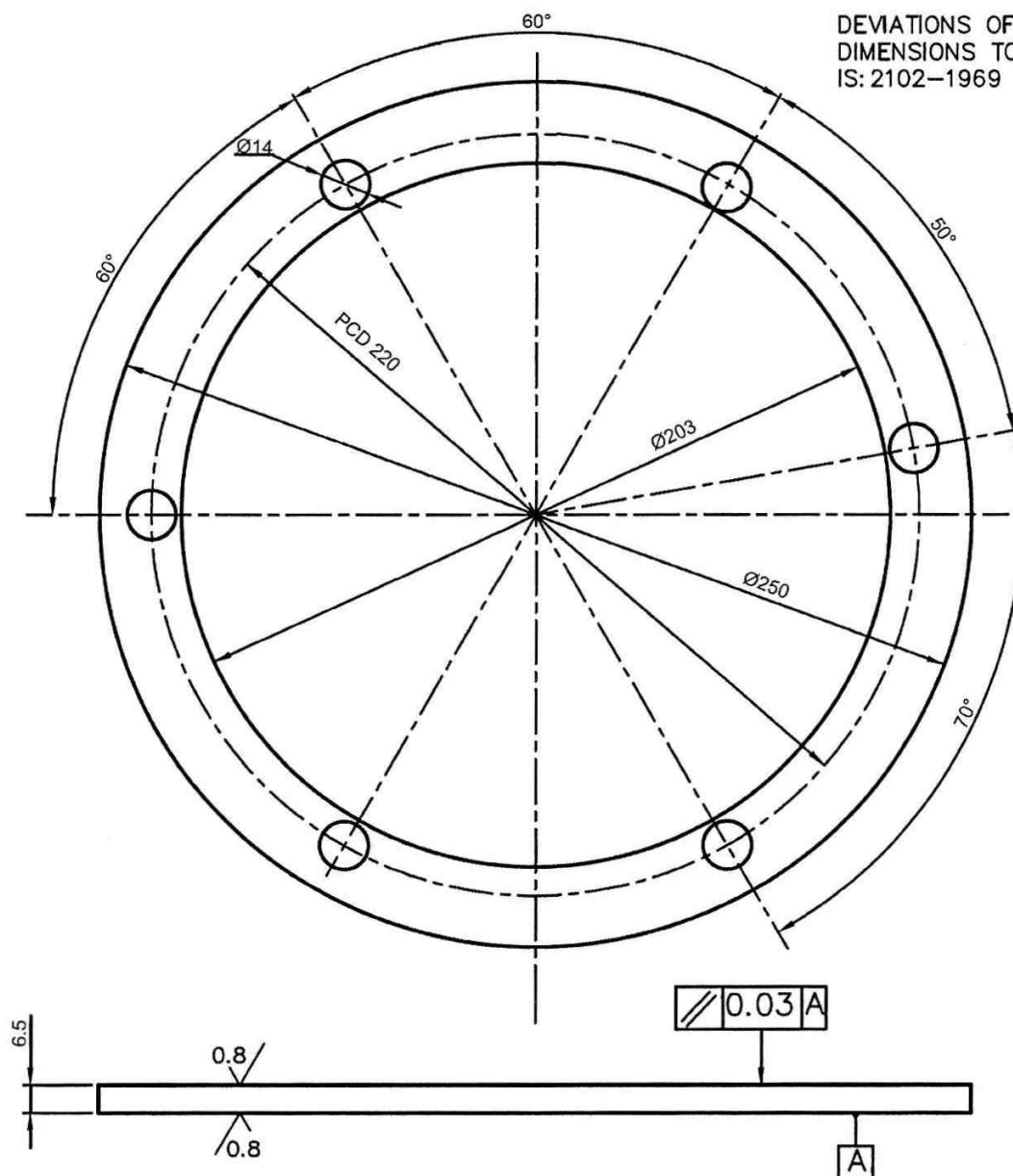
THREADED RING

30.ST.115.01.078

ALL DIMENSIONS ARE IN MM

1.6/0.8

DEVIATIONS OF UNTOLERANCED
DIMENSIONS TO BE AS PER
IS: 2102-1969 MEDIUM.

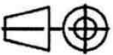


ASSEMBLY NOTE:

GRIND THE FACE(max.2.5mm) TO SUIT ASSY.

MATERIAL: 45C8 IS: 1570(Part II)-1979

MATERIAL CODE No.: 69 11 11 032 7

 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014				DRN	NAME R.KUMAR	SIGNATURE	DATE 18.07.11
				APPD	S KARUPPASAMY		
DEPT	GRADE OF UNTOL DIM C/M/F	 SCALE 1:2	WEIGHT (Kg)	REF TO ASSY DRG 00.ST.115.02.006		ITEM NO 34	
CODE			0.2	REF TO OLD DRG 0107048-10.028			
TITLE RING (SRM380)			CARD CODE U 01	DRAWING NO : 40.ST.115.01.061			REV 01

BHEL, Tiruchirapalli-620014		SSTP / Tool Engineering	Technical Delivery Conditions
Product : PUSH POINTING GRIPPER JAW			
Document No.	Revision No.	Effective Date	Page No.
TDC/TE/MFG- 35	01	24.08.2009	1 of 2
Revision Record	01 – In clause 5.0, Annealing is replaced with stress relieving In clause 10.0, Test certificate requirement detail added		

1.0 PRODUCT:

Sl.No.	Equipment / Product	Drg. No.	Drg. Rev. No.
1.	PUSH POINTING GRIPPER JAW	30.ST.211.02.416 30.ST.211.02.415	AS PER LATEST ENQUIRY / PURCHASE ORDER

2.0 APPLICATION:

To clamp the hollows during the pointing operation in the Pointing Machine.

3.0 MATERIAL:

1. DIN 1.2080 - X210Cr12 or IS : 3748-1990 XT215Cr12
2. Conduct Ultrasonic Test on Raw Material after proof machining in accordance with SA 388.
3. Acceptance Standard in accordance with AM 203.2(c), ASME Sec VIII Div.2. Certified by NDT Level II qualified personnel as per SNT – TC – 1A (**Society of Non Destructive Testing**)
4. Raw material chemistry :
Original mill test certificate shall be provided. Otherwise copy of original mill test certificate and test report from **NABL accredited lab for chemical check** on sample from the procured material shall be provided.

4.0 DIMENSIONS AND TOLERANCE:

As per Drawing

5.0 HEAT TREATMENT:

Stress Relieving	:	650 – 700 Degree C
Hardening	:	930 – 980 Degree C
Quenching	:	In Oil
Tempering	:	350 – 450 Degree C
Hardness	:	As per drawing

The above heat treatment cycle is based on **DIN 1.2080 - X210Cr12**. For other material the cycle shall be selected close to the above temperature to attain the specified Hardness.

6.0 INSPECTION & TESTING:

6.1 MECHANICAL TESTING :

Hardness Test shall be done as per **DIN EN ISO 6508-1** or **IS 3748-1990** according to the material used and acceptance is as per drawing.

7.0 DIMENSIONAL INSPECTION:

As per Drawing.

8.0 NON-DESTRUCTIVE TEST :

1. Liquid Penetrat Test :

Conduct after finish machining as per **ASTM E165-2**. Shall be certified by NDT Level II qualified personnel as per SNT-TC-1A

BHEL, Tiruchirapalli-620014	SSTP / Tool Engineering	Technical Delivery Conditions	
Product : PUSH POINTING GRIPPER JAW			
Document No.	Revision No.	Effective Date	Page No.
TDC/TE/MFG- 35	01	24.08.2009	2 of 2

9.0 MARKING:

As per drawing

10.0 TEST CERTIFICATE/REPORT:

Following test certificates /reports shall be sent with materials. In all the TCs & reports BHEL PO No., component name, TDC NO. and drawing no., Material identification no (heat/melt no), job sl.no. shall be mentioned where ever applicable:

1. Raw Material Chemistry
2. Hardness
3. Temperature-Time-Recorder Graph for the Heat Treatment Cycle followed
4. Ultrasonic Test Report for Raw Material
5. Liquid Penetrant Test
6. Dimension Report

11. PRESERVATION & PACKING :

1. Supply with rust preventive coating which shall be dry after application and removable by common solvents.
2. Pack suitably to avoid transit & handling damages

Prepared By	Reviewed By	Approved By
 DM / TE	 M / QA	 AGM / TE