

TENDER ENQUIRY NO.: X/6620/2024/0092/C/1

SUB:- TERMS & CONDITIONS FOR FORMING OF LP INNER CASING

NIT-Notice Inviting Tender

Salient Details of Notice Inviting Tender (NIT)		
Sl. No.	Issue	Description
1.	Item details	As per Enquiry Annexure X/6620/2024/0092/C/1
2.	Issue of Tender Documents	From BHEL eProcurement website https://eprocurebhel.co.in/nicgep/app (Tender documents will be available for downloading from BHEL e-Procurement website till due date of submission)
3.	Due Date Of Offer Submission	Date: 13-06-2024 Time: 13:45 hrs https://eprocurebhel.co.in/nicgep/app <i>Offer to be submitted in online only through e-procurement Portal.</i> (Bidders are requested to visit website to view corrigendum/ addenda/ amendments/ extension/ modification etc. before submitting offer).
4.	Opening of Tender (Techno-Commercial Bid)	Date: 13-06-2024 Time: 14.00 Hrs Notes: <i>This tender being an e-tender, it shall be opened online only through the E-Procurement Portal. Participating bidders may witness the Opening online only.</i>
5.	Cost of Tender	INR 2000/- (If hard copy of tender document is required from BHEL otherwise not applicable.)
6.	EMD (Earnest Money Deposit)	Not Applicable
7.	Schedule Of Pre-Bid Discussion	Not Applicable
8.	Integrity Pact & Details of Independent External Monitor (IEM)	Not Applicable
9.	Latest Updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL e-tender portal https://eprocurebhel.co.in/nicgep/app and not in the newspapers. Bidders to keep themselves updated with all such information

Please submit your offer only for the above requirement subject to our **GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (Version: June-2021, Rev.06)**. Please visit our site www.hwr.bhel.com for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries. All the bidders/vendors must ensure compliance of these GISTC. GISTC can also be referred by login to B2B Portal for Registered Vendors.

Tender Fee & EMD (If Applicable) will be submitted in the form of Pay Order / Demand Draft (drawn in favor of 'BHEL HARIDWAR') only. It may be noted that if hard copy of any tender document is required, then the same may be collected against copy of Pay Order / Demand Draft of requisite tender fee (while original to be submitted with Part-I).

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If EMD is not submitted along with the offer, then the offer may not be considered.

For E-Payment, the RTGS details are mentioned as below:

Bank Details	SWIFT Details of bank
STATE BANK OF INDIA RANIPUR BRANCH, OPP: BHEL MAIN GATE, SECTOR-5, RANIPUR, HARIDWAR, UTTRAKHAND, INDIA PIN CODE : 249403	SWIFT NO.: SBININBB225 CC ACCOUNT NO.: 10667995458 IFSC CODE: SBIN0000586

As per notification reference no. NSIC/HO/GP/15(4)/2013-14 dated 07.07.2013 Micro & Small Enterprises (MSEs) are not required to submit Tender fees. A Valid MSE certificate such as Udyog Aadhar (UAN)/Udyam Certificate/NSIC/EM (Part-II) etc. issued from competent authority shall be submitted in support of Micro & Small Enterprises (MSEs).

“As per the OM No. F. No. 1(2)(1)/2016-MA dated. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), “Traders and agents should not be allowed to avail the benefits extended under the PP Policy.”

Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.

BHEL will forfeit the EMD if, the successful bidder / vendor refuses to honor the order after award of the same on him and / or withdraws his bid and / or unilaterally changes the offer and / or any of its terms & conditions within the validity period.

INSTRUCTIONS TO BIDDERS FOR SUBMITTING OFFER

TECHNICAL QUALIFICATION: Technical Requirement, Pre-Qualifying Requirements/PQR to be submitted. It is the mandatory requirement. Offer of vendors not meeting these requirements may not be considered.

ESSENTIAL INSTRUCTIONS

The tender shall be **submitted in two parts** in separate cover as described below on or before the due date:

Part I (Cover-1) - Containing the following:

1. Techno -Commercial Bid
2. Tender Fee & EMD (Earnest Money Deposit) Or Valid certificate/Document towards exemption of Tender fee and/or EMD (applicable for Micro and small Enterprises, Central / State – PSUs / Government departments, PMD vendors etc.)

Part II (Cover-2) - Containing Price Bid in attached Format

Bidders against tender will necessarily have to obtain class – III DSCs. Procedure for application available on www.bhel.com.

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E-Procurement Portal Inputs

Procedure for Submission of Offer for E – Tender-Procedure for Submission of Tender is available in the “Bidder Manual for BHEL Bidders” at E-tender portal <https://eprocurebhel.co.in/nicgep/app> . Terms and conditions mentioned therein shall form integral part of the NIT and bidders shall abide by the same.

Hardware and Software requirements for participating in e-tender

Please refer the website for the minimum system requirements and setting document for Bidders under the link: <https://eprocurebhel.co.in/nicgep/app>

Digital Signature

To know the procedure for obtaining Digital Signature Certificate (DSC), suppliers who are not having the DSC are advised to visit our website [http://www.bhel.com/home.php/Tender Notifications/Sample Checklist](http://www.bhel.com/home.php/Tender%20Notifications/Sample%20Checklist).

NIC portal Helpdesk Contacts

For any technical related queries please call at 24 x 7 Help Desk Number

0120-4001 002

0120-4200 462

0120-4001 005

0120-6277 787

International bidders are requested to prefix 91 as country code

Email Support

Address: A) For any Issues or Clarifications relating to the published tenders, bidders are requested to contact the respective Tender Inviting Authority

Technical - support-eproc@nic.in

Note

Offers/tenders submitted in the E-tender portal shall only be considered for further evaluation. Offers sent by FAX / E-mail / any mode other than E-tender would not be entertained.

The Tenderers must submit their Tenders, as detailed below:

SPECIAL NOTE: All documents to be submitted should be uploaded in respective places in the E-Tender portal as per the list mentioned given in this NIT. BHEL shall not be responsible for incomplete documents.



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TERMS & CONDITIONS FOR PRE-FAB. M/C & FAB. ONLY OF LP INNER CASING INLET PART-FAB.

Online offers are invited through e-procurement portal <https://eprocurebhel.co.in/nicgep/app> from suppliers for the supply of the items.

The item name and drawing no. mentioned in the enquiry is for reference & will be available for ordering. A sample of Combined Bill of Materials and all reference drawings are also enclosed for having a general idea of the tender.

1. SCOPE OF WORK: -

This enquiry is for pre-fabrication machining & fabrication of following items with BHEL Material as per drg., QP & other specifications.

Sl. No.	Item Description	Drg. No.	Qty.	Weight/Piece (in kg.)
1	LP INNER CASING INLET PART-FAB	9107423200000	1 No.	34206.79
2	LP INNER CASING INLET PART-FAB LP-2	9107423250000	1 No.	34206.79

Weight per Piece = $34419.39 - 185 \times 1 - 0.92 \times 30 = 34419.39 - 212.60 = \mathbf{34206.79 \text{ kg.}}$

*Total Fabrication Weight = $34206.79 + 34206.79 = \mathbf{68413.58 \text{ kg.}}$

Remark-

- 1.All pre-fabrication machining shall be done by vendor.
- 2.Technical requirements of main and part drawings must be strictly followed.
3. SL. NO.-1 & 2 shall be delivered to BHEL within 80 days after receiving BHEL material.
- 4.Item no 149 & 152 of fab Drgs. no.- 91074232000-00 & 910742232500-00 are not in scope of vendor.
- 5.Vendor should submit manufacturing plan to BHEL for approval before start of assembly welding.
- 6.Prior to commencement of welding, the vendor is required to get the fit up of assembly may be checked by duputed QCM personnel.
- 7.Technological support will be in the scope of vendor to avoid distortion during assembly, welding, dispatch and stress relieving.
- 8.NDT of LP inner casing inlet part before S/R will be in scope of vendor.
- 9.SRIV clearance shall be based on fullfillment of point no. 8 with report after receiving assembly in BHEL.
- 10.SR shall be done after assembly of LP inner casing inlet part with diffuser, followed by final NDT at BHEL, as per TR and QAP.



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- TOTAL LOAD FOR THE Enquiry (**Approximately**) = **68413 . 58 Kg.**
- The rate (s) should be quoted in **Rupees/Kg.**
- Cleaning of parts, removal of mill scale from components prior to assembly will be in scope of vendor.
- CHP Clearance may be obtained from NTPC/LLOYD/RITES/NPC at party's end.
- Final Assembly shall undergo cleaning to ensure that all parts are free from dents, mills, spatters.
- Customer's seal (if Any on supplied Material) to be transferred.
- Copies of the relevant certificates to be supplied to the receiving shop.
- Quality plan (if any) to be followed for Material induction and CHP.
- All special tests viz., UT, RT, HYDRAULIC & KEROSENE etc. are to be performed as per drg. requirements.
- Aesthetic appearance shall also be ensured and inspected before delivery to BHEL.

2. VALIDITY: -

The validity of offers by vendors should be at least for a period of **90 days** for this enquiry from the date of enquiry opening.

3. SUBMISSION OF OFFERS: -

Open tender is hoisted on the <https://eprocurebhel.co.in/nicgep/app> and no hard copy of document is provided by BHEL, no tender fee shall be insisted upon from the bidders.

The offer is to be submitted in **two parts** on NIC portal only on website: <https://eprocurebhel.co.in/nicgep/app>

BHEL reserves the right to reject any or all the tenders either in full or part thereof without assigning any reasons thereof.

4. DELIVERY: -

F.O.R.: HEEP, BHEL Haridwar.

5. DELIVERY SCHEDULE: -

Sl. No.	Item Description	Drg. No.	Qty.	Delivery
1	LP INNER CASING INLET PART-FAB	9107423200000	1 No.	Within 80 days from last BHEL material sent
2	LP INNER CASING INLET PART-FAB	9107423250000	1 No.	Within 80 days from last BHEL material sent



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6. **Bank Guarantee/Indemnity Bond:** - 10% Bank Guarantee and 90% Indemnity Bond for the value of materials to be given by vendor for free issue materials. BG & IB conditions will as applicable as mentioned in PO. Material value will be calculated on PPMIV/Challan value basis. On intimation from BHEL regarding BG & IB, the same shall be provided by the vendor (s) within 15 Days. If suitable BG and IB are not submitted to BHEL within 15 days of intimation, then the amount of days delayed beyond 15 days after intimation will be deducted from delivery days of that item and consequent PO amendment will be issued. (BG & IB value will be calculated on PPMIV /challan value)

For Example: If intimation for requirement of BG & IB of an item of a PO is given to vendor on 01.04.2024 from BHEL, then vendor should mandatorily provide required BG and IB by 15.04.2024. In case, the vendor provides the same by 30.04.2024, then the difference of 15 days (between 30.04.2024 & 15.04.2024) will be deducted from delivery days of that item and consequent PO amendment may be issued.

7. **INSPECTION:** -

- The inspection will be carried out by BHEL/BHEL nominated inspection agency at Party's works. All facilities and equipment's, calibrated instruments and standard gauges required for inspection shall be provided by the vendor during inspection. In some cases, inspection by customer's representatives like NTPC/RITES etc. may also be carried out at Party's works and CHP clearance may be obtained. No additional charges will be paid on this account.
- The party is to follow system for material control, if applicable, as per BHEL Quality Control system.
- Identification marks shall be punched on each item by the vendor i.e. Purchase Order No., Drawing No., IR No. etc.
- Aesthetic appearance is to be maintained as per drg. requirement.

8. **GUARANTEE CERTIFICATE:** -

The vendor shall warrant that the supplied fabricated assemblies/items comply fully with the drawings and other technical conditions. If the fabrications/items are found defective owing to faulty workmanship/incomplete work within a period of eighteen (18) months from the date of dispatch, the vendor shall make good of it/replace the same free of cost. Alternatively, the rework/replacement charges will be recovered.

9. **REJECTION:** -

No rejection allowance is allowed. BHEL would recover full value of the material damaged. In case of defect observed on material supplied by BHEL at any stage of operations and material stands rejected, then BHEL will pay for the part operations performed by the sub-contractor and such payment shall be made after joint certification by the QC, Technology and Shop Planning Personnel.

10. **PAYMENT TERMS:** -

- 10.1 90% after acceptance & final clearance of SRIV. Balance 10% after FTS (Final Tally Sheet).
- 10.2 No packing and forwarding charges will be paid extra.
- 10.3 In case of rejection, total cost of material will be recovered for BHEL Material and no labour cost will be paid.
- 10.4 For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL,



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the payment will be made within 45 days or as prescribed in the relevant act.

10.5 Detailed terms at clause 10.0 of GISTC Rev. 06, June 2021.

11. LD CLAUSE: -

@ 0.5% per week subject to max 10% for the delayed portion of supply. The entry date mentioned by CISF on the challan at BHEL material gate will be taken as material receipt date.

12. GST: -

As per clause 11.0 of GISTC (attached). At present GST rate applicable for this enquiry will be 12 %. However, it will be as applicable as per Govt. guidelines/circulars.

13. Quality Requirement: -

QP attached for ref only.

14. Reverse Auction: -

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking." For detailed terms and conditions of RA guidelines, kindly refer www.bhel.com.

Reverse Auction will be conducted if two or more bidders are techno commercially qualified. In case of two or three qualified bidders, there shall be no elimination of H1 bidder (whose quote is highest in sealed envelope price bid). In case of four qualified bidders, the H1 bidder shall be eliminated whereas in case of five qualified bidders, H1 & H2 bidders shall be eliminated. However, in case of six or more qualified bidders are available, RA would be conducted amongst first 50% of the bidders arranged in the order of prices from lowest to highest. Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of qualified bidders is odd (e.g. if 7 bids are qualified, then RA will be conducted amongst lowest four bidders). However, there will be no elimination of qualified bidders who are MSE or qualifying under PPP-MII, Order 2017, provided their bids are within their respective margin of purchase preference {presently 15% for MSEs and 20% for PPP-MII, or as amended from time to time}.

In case of multiple H1 bidders, all H1 bidders (except MSEs and bidders qualifying under PPP-MII, Order 2017, who are within the margin of purchase preference) shall be removed provided minimum two bidders remain in fray, else no H1 removal.

15. GENERAL INSTRUCTIONS: -

15.1 No further sub-contracting to third party or sister concern by the sub-contractor is allowed Without prior permission of BHEL. If found guilty, will be debarred.

15.2 BHEL reserves the right to suspend/cancel the PO/Enquiry unilaterally without any financial repercussions, if Sub-contractor's performance is not found to be satisfactory.

15.2.1 BHEL reserves the right to revise the drawing after placement of purchase order. The prices in the purchase order will be amended according to revised drawing.

15.3 Please refer general instructions and standard terms & conditions (GISTC) for bidding against



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tender enquiry (version June-2021, Rev:06) the bidder/vendor must ensure compliance of these GISTC (version June-2021, Rev:06). Please refer <https://hwr.bhel.com>.

15.4 MSE suppliers are exempted for submission of EMD & Tender Fee.

15.5 Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.

15.6 Documents submitted with the offer/bid by the bidder should be signed and stamped in each page by authorized representative of the bidder.

15.6.1 PQR required documents is to be submitted along with the Techno- Commercial offer (PART-I).

Note:- Offer shall be entertained only after submission of duly filled, signed and stamped PQR and relevant documents. Offers of the vendor(s) not submitting this may be ignored.

15.7 Vendor Contract clause regarding GST ITC and provision for E-Invoices:

(i) E-Invoicing under GST is being implemented w.e.f. 01.04.2022 for all the taxable persons having turnover more than Rs. 5 Cr. It has been specified by the Govt. that it is mandatory to mention a valid unique Invoice Reference No. (IRN) and QR code as generated from Govt. portal on a Tax Invoice. Based on such information, GST ITC as claimed by BHEL in GST Returns shall be matched with the corresponding details uploaded by supplier in E-Invoicing System.

(ii) In case the vendor /contractor delays or fails to provide all the documents as per the Purchase order / Work Order at the time of submitting Tax invoice to BHEL, any subsequent financial loss to BHEL on account of vendor/contractor shall be to vendor's / contractor's account. BHEL has further right to take necessary steps to protect its interest at the time of release of payment. This further requires inclusion of IRN and QR code on tax invoice as announced by Govt. of India w.e.f. 01.10.2020.

15.8 In case of ordering against the tender, vendor should submit their invoices against goods and services immediately after supply of goods & services but not later than 30 days from the invoice date. In case of delay, consequential losses like loss of input credit and non-availability of concessional forms etc. shall be to the vendor account.

15.9 The bidders against open tender will necessarily have to obtain class – III DSCs (Digital signature). Procedure for application is available on hwr.bhel.com.

15.10 Following MSE conditions shall be followed: -

MSE Suppliers can avail the intended benefits only if they submit along with the offer, attested copies of UDYAM Certificate.

Detailed MSE conditions is at clause no. 23.0 of GISTC Rev. 06, June 2021.

* Govt. guidelines will supersede all clauses of this tender for MSE benefits to vendor(s).

16. EVALUATION OF BIDS:

- **Their price bid will be opened only when the vendor is approved by BHEL/BHEL Customer.**
- All vendors will be assessed on total cost to BHEL basis that includes freight, taxes, ITC etc **on item wise basis.**
- In the course of evaluation, if more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from respective L1 bidders. In case more than one bidder happens to occupy the L1 status even after soliciting discounts, the L1 bidder shall be decided by toss/draw of lots, in the presence of respective L1 bidder(s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situation shall be final and binding.



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17. Transportation: -

Transportation of PPMIV material (BHEL raw material) will be in scope of BHEL and the freight will be borne by BHEL. However, the same will be loaded into the cost quoted by vendor in RA sheet. Vendor to deliver fabricated/machined/formed items to BHEL Haridwar at their own cost.

18. SCRAP: -

- Generated scrap is to be retained by the sub-contractor. This scrap is chargeable. The scrap rate will be calculated based on the monthly market scrap price Published in MSTC Bulletin/any other document under category of scrap MELTING SCRAP. The calculated monthly price for charging scrap will be rounded off to two decimal places of Rupee. GST charges on scrap shall also be applicable.
- BHEL would recover the amount of GST and Trade Tax as applicable from the sub-contractor's account in lieu of scrap retained by them. The difference between raw material weight and finalized weight shall be considered for the calculation of scrap generation.
- A 3% invisible cutting allowance may be given on the finished weight.

19. RECTIFICATION: -

Any defect (noticed at Shop) arising out of the fabrication/machining/forming done by the Sub-Contractor, will have to be rectified or items replaced by the sub-contractor within 10 days at their own cost. Otherwise BHEL will be free to take necessary action as deemed fit and consequence/cost of the same will be to subcontractors-account.

20. Breach of contract :-

"Breach of contract, Remedies and Termination: In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is at least 10% of the contract value, the same be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, etc. with BHEL) or legal remedies be pursued. The balance scope shall be got done independently without Risk & Cost of the failed supplier/contractor. Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract. Accordingly, recovery of an amount equivalent to 10% of the contract value may be made in case of breach of contract."

21. Conflict of Interest:"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder, found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; or
- b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
- c) they have the same legal representative/agent for purposes of this bid; or
- d) they have relationship with each other, directly or through common third



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parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or

e) Bidder participates in more than one bid in this bidding process.

Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more than one bid; or

f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:

1. The principal manufacturer directly or through one Indian agent on his behalf; and

2. Indian/foreign agent on behalf of only one principal, or

g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or

h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

22."BHEL may load maximum penalty under LD clause, to the extent the same is not agreed by the vendor, for the purpose of comparative statement. Where deliveries quoted by the vendors are not suiting, BHEL may also ignore the offer of the vendor ".

- **Against vendor's replies, BHEL reserves the right to ask for more information/ documents / clarifications. Vendor's offer shall not be considered if vendor fails to furnish the document / information / clarifications as mentioned above or doesn't meet the acceptance criteria. Time period for technical/commercial clarification is 3 days.**
- Amendments/Corrigendum, if any, will be hosted on designated web site/ GePNIC Portal only. Other terms and conditions will be as per tender documents. Any vendor who is under hold (for the item)/ delisted/ banned with BHEL on date of opening of Part – 1 will not be allowed to quote for this tender. In case their offer is received, it may be outrightly rejected.
- For this tender enquiry, the Tender Documents, Drawings, P.O copy etc. shall be sent by e-mails and shall not be sent in hard copies. Vendors to kindly note that the details sent by e-mail shall be considered for delivery against the finalized contract(s)/ P. O's placed.
- ****OFFERS SHALL BE ADMITTED THROUGH GePNIC PORTAL** <https://eprocurebhel.co.in/nicgep/app>
ONLY



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Annexure - A

PRE-FAB. M/C & FAB. ONLY OF LP INNER CASING INLET PART-FAB

OpenTender Enquiry No.: X/6620/2024/0092/C/1

Sl. No.	Item Description	MATERIAL BY	Quoted/Not Quoted (Price not to be quoted here)
1	LP INNER CASING INLET PART-FAB (Drg. 9107423200000)	BHEL MATERIAL	
	LP INNER CASING INLET PART-FAB (Drg. 9107423250000)	BHEL MATERIAL	

Authorised Signature:
(with date & seal of company)

Name of Supplier: -

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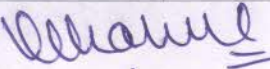
SL.	TERMS	VENDOR'S ACCEPTANCE/ REMARKS
1	Scope of Work: - Complete PRE-FAB. M/C & FAB. ONLY as per Drawing/Standard, QP and Technical requirements (as per clause 1 of terms & conditions of enquiry).	
2	Quotation is valid for a minimum period of 90 days from date of opening of enquiry. (as per clause no. 2 of Terms and Conditions of enquiry)	
3	Submission of offers (as per clause no. 3 of Terms and Conditions of enquiry)	
4	Quoted rates are on F.O.R. sub-contract store, HEEP, Haridwar basis.(as per clause no. 4 of Terms and Conditions of enquiry)	
5	Delivery schedule as per clause 5 of T& C of enquiry.	
6	Bank Guarantee/Indemnity Bond: 10% BG & 90% Indemnity bond (as per clause 6 of T& C of enquiry)	
7	Inspection shall be done (as per clause no. 7 of Terms and Conditions of Enquiry)	
8	Guarantee Certificate shall be valid for 18 months. (as per clause no. 8 of Terms and Conditions of Enquiry)	
9	Rejection:- (as per clause no. 9 of Terms and Conditions of Enquiry)	
10	PAYMENT TERMS:- 90% after acceptance & final clearance of SRIV. 10% after FTS and final account of material (as per clause no. 10 of Terms and Conditions of Enquiry).	
11	LD clause is applicable@0.5% per week or part thereof with a maximum limit of 10% of the delayed portion of supply (as per clause no. 11 of Terms and Conditions of Enquiry).	
12	GST shall be applicable against documentary proof. Input Tax Credit shall be applicable and BHEL can claim benefit (as per clause no. 12 of Terms and Conditions of Enquiry).	
13	Quality Requirements:- (as per clause no. 13 of Terms and Conditions of Enquiry).	
14	RA:-We accept Reverse Auction(RA) clause. (as per clause no. 14 of Terms and Conditions of Enquiry).	
15	We have read clause no. 15 of terms and conditions of Enquiry and confirm to abide the same.(Clause 15.1 to 15.10)	
16	Evaluation of bids:- (as per clause no. 16 of Terms and Conditions of Enquiry).	
17	Transportation:We accept Transportation clause. (as per clause no. 17 of Terms and Conditions of Enquiry).	
18	Scrap :Confirm acceptance of Clause 18 of T & C of Enq.	
19	Rectification:We accept Rectification clause. (as per clause no. 19 of Terms and Conditions of Enquiry).	
20	Breach of contract ;Confirm acceptance of Clause 20 of T & C of Enq.	
21	Conflict of Interest:Confirm acceptance of Clause 21 of T & C of Enq.	
22	We have read clause no. 22 of terms and conditions of Enquiry and confirm to abide the same.	
24	We have submitted Make in India (duly filled & signed and attached.)	
25	We have submitted GISTC Rev.06 (duly filled & signed and attached.)	
26	We have submitted MSE Certificate (if applicable)	
27	Rates have been quoted in indian Rupees on per Kg.	

Note: BHEL reserves the right to reject any or all the offers (on techno-commercial ground) without assigning any reason thereof.

(Vendor's signature with Stamp)

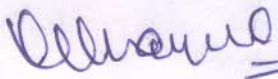
PQR for LP INNER CASING INLET PART (FAB) – 91074232000-00 & 91074232500-00				
Sl. No.	Technical Requirement	Required	Offered (Vendor to fill the details)	Remarks
01.00	Experience Required: Vendors should have experience of fabricating (cutting/bending/assembly/welding/pre-fabrication machining) and supplying of at least 1 No. LP Inner Casing Inlet Part - Fab or similar fabricated components weighing 15 MT or above in the last 7 years from the date of enquiry.	Vendor to agree and submit documents as per Clause 03.00 or 04.00		
02.00	Job (LP Inner Casing Inlet Part - Fab) details: i) Dimensions of job (Upper Half): L= 4.5 metres, W = 3.0 metres, H: 3.12 metres ii) Dimensions of job (Lower Half): L= 4.5 metres, W = 4.0 metres, H: 2.6 metres iii) Weight of fabricated structure - 20 Tons (for each Half) iv) Material Grade is Mild Steel with angle/ beam & Plate thickness upto 140 mm			
	Compliance of following in-house facilities in-line with job requirements:	Vendor to agree		
02.01	Lifting facility at vendor works should be EOT crane with capacity 20 Tons or above.	Vendor to agree		
02.02	Vendor must have levelled bed size to fabricate and accommodate job of dimensions: L= 5.0 metres & W=4.0 metres (Note: Concrete floor is not acceptable)	Vendor to agree & submit suitable documents/ evidence— Manufacturing Facility list with capacity details, technical specifications, technical brochure, photograph etc. of the facilities.		
02.03	Vendor must have Gas Cutting facility for plate thickness 140 mm or above.			
02.04	Cone bending/ Rolling facility to bend plates for i) Thickness 100 mm or above with Width 700 mm or above (for Cylindrical Bending) ii) Thickness 30 mm or above with Width 2900 mm or above (for Cylindrical Bending) iii) Thickness 36 mm or above with Width 600 mm or above (for Cone Bending)			
02.05	Machining facility: General purpose machining facilities- lathe, milling, drilling etc. to cater for pre-fabrication machining requirements as per drawing.			
02.06	Welding shall be carried out by qualified WPS (Welding Procedure Specification)/ PQR (Procedure Qualification Record)/qualified welders with WPQ (Welder Performance Qualification) as per ASME section-IX duly approved by third party (preferably by M/s Lloyds, M/s RITES, M/s TUV, M/s NTPC, M/s BVQI, M/S EIL, M/s NPCIL).	Vendor to agree and submit the copy of Third party approved WPS/PQR & WPQ		

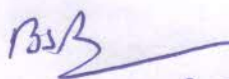

29/01/2024


29/01/2024

PQR for LP INNER CASING INLET PART (FAB) – 91074232000-00 & 91074232500-00				
Sl. No.	Technical Requirement	Required	Offered (Vendor to fill the details)	Remarks
03.00	Vendor to furnish certificate against clause 01.00 from the customer / company or end user duly confirming that fabricated LP Inner Casing Inlet Part - Fab or equivalent job was supplied and used for Generator/power plant/capital goods/infrastructure application OR vendor to submit documentary evidence as per clause 04.00	Vendor to agree & submit suitable documents		
04.00	Against Clause 01.00 Vendor to furnish name of customer/company with complete contact details and month /year of previous supply along with copy of PO, type of manufacturing facility used for fabrication (assembly/welding/pre-fabrication machining), supply documents, payment details (invoice copy) and inspection documents of supplied LP Inner Casing Inlet Part - Fab or equivalent.	Vendor to agree & submit suitable documents		
05.00	PQR and all the relevant documents (every page) are to be signed and stamped in original by Vendor. In case documents and official stamp is in language other than English, documents and details of official stamp are to be translated in English and duly certified by Government agency/ approved agency of Government/ Embassy.	Vendor to agree & submit suitable documents		
06.00	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, their offers shall be rejected.	Vendor to agree		
NOTE: PQR IS NOT RESTRICTIVE				


 29/01/2024
 Sushant Kr. Thakur
 Manager (WTX)


 29/01/2024
 VIJAY KUMAR
 Mgr (WTX)


 20-01-2024
 (B3 Army)
 AGN-WT



MANUFACTURING QUALITY PLAN

ITEM: LP INNER CASING (FABRICATION & MACHINING)

QP NO.: 1.03.02

REV. 00

DATE: 28-DEC-2018

PAGE 1 OF 1

PROJECT: 3 X 800 MW PATRATU STPS

PACKAGE: EPC/TG PACKAGE

CONTRACT NO. 9585-001

MAIN SUPPLIER: BHEL, Haridwar

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY			REMARKS
										S	B	C	
1	2	3	4	5	6	7	8	9	D	10			11
1.200	Receiving inspection												
1.210	Supplier's certificates	Verification of supplier's Certificates of plates > 40 mm thickness	Major	Certificate review	100%	MTC	AA10119/AA10401	Receiving Inspection Record	✓	-	P	V	
2.000	In process inspection												
2.100	Visual inspection	Visual inspection of weld seam preparation	Minor	Visual	100%	Drawing	Drawing	-		-	P	-	
2.200	Welding	Visual inspection of weld	Minor	Visual	100%	Drawing	Drawing	-		-	P	-	
2.300	Stress relieving	Stress relieving and verification of stress relieving records.	Major	Visual	100%	Drawing	Drawing	SR Graph	✓	-	P	V	
2.400	NDT	RT/UT of butt welds	Major	NDT	As per Drg.	Drawing	Drawing	Report	✓	-	P	V/W	RT-Film review UT- Witness
2.500		DPT of fillet welds	Major	NDT	As per Drg.	Drawing	Drawing	Report		-	P	V	
2.600		DPT of Lifting Lugs	Major	NDT	As per Drg.	Drawing	Drawing	Report		-	P	V	
2.700	Dimensions	Verification of dimensions and visual inspection after machining	Major	Visual & Measurement	As per Logsheet	Drawing	Drawing	Logsheet	✓	-	P	W	
2.800	Color matching	Check for Color matching and joint clearance after tightening of alternate bolts (from inside & outside)	Major	Visual & Measurement	Random Random	Drawing	Drawing	Obs. Sheet	✓	-	P	W	
3.000	Final inspection												
3.100		Check for cleanliness and completeness	Major	Visual	100%	Drawing	Drawing	Obs. Sheet	✓	-	P	V	

MANUFACTURER/ SUB-CONTRACTOR	Deepika Singh Worked By: (Deepika Singh)	Legend: Records identified with "tick" shall be submitted to customer as a QA Documentation package. S= sub-vendor, B= BHEL/ BHEL nominated inspection agency, C= Customer, P= Perform, V= Review of records W= Customer witness (not hold, BHEL to give advance notice and customer to Associate but work will not stop. CHP= Customer Hold Point (work will not proceed unless the clearance from customer)	DOC. NO. 9585-001-110-QVM-Q-753 REV 00 CAT	FOR CUSTOMER USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL
	Approved By: (A K Swami) MAIN-SUPPLIER						

Signature Not Verified
 Date: 2019.01.09
 16:58:01 IST
 Reason: CAT I
 Location: NTPCEOC

28/12/18

Self-certification

As per Government Public procurement order no. P-45021/2/2017-BE-II dt.15.06.2017 & P-45021/2/2017-PP(BE-II) dated 28.05.2018,29.5.2019 & 04.6.2020, it is hereby certifying that we

.....

(supplier name) are(Class-I/Class-II) local supplier and will meet the requirement of minimum local content of (50%/20%) as defined in public procurement order dated 04.6.2020 for material against Enquiry no.

.....

Details of location at which local value addition will be made is as follows: -

.....

.....

We also understand, false declarations will be in breach of the code of integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the general financial rules along with such other actions as may be permissible under law.

Seal & Signature of Supplier



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

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1. GENERAL.

These general terms & conditions shall apply to all the Tender Enquiries, notice inviting tenders, request for quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd., HEEP, Haridwar (hereinafter referred to as BHEL or the Purchaser). In case of placement of order these conditions will become part of Purchase Order (P.O) until unless the deviations are specifically agreed by BHEL.

2. ORIGIN OF QUOTATION.

- The quotation should preferably be from the principal bidder. However tender specific authorized registered dealer/agent can also submit the bid on their behalf, failing which the quotation is liable to be ignored. BHEL prefers to deal directly with the principal manufacturers.
- An agent cannot quote on behalf of more than one principal in the same Tender Enquiry.

3. SUBMISSION OF TENDER.

- Bid / Quotation must be enclosed in sealed cover on which tender enquiry number and the due date MUST BE written and be invariably sent under REGISTERED POST / SPEED POST / COURIER / Dropped in the Tender Box: addressed as follows:

Quotation against Enquiry No. _____

Dated: _____

Due on: _____

To,

**THE HEAD OF MATERIALS MANAGEMENT,
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited,
HARIDWAR-249403 (Uttarakhand), INDIA.**

- TENDER ROOM is located at: Room No. - 415, 4th Floor, Main Admin. Building, BHEL-HEEP, Haridwar.

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



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- c) In case of Three / Two Part Bid, technical bid containing technical offer, duly signed and un-priced copy of the Price Bid should be kept in one envelope. Price Bid containing only the price should be kept in a separate envelope. All envelopes indicating Part-1 or Part-2 or Part-3 as the case may be to be put in a bigger envelope. Please note that un-priced bid should be the exact replica of price bid but without prices.
- d) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Quotations sent by any mode but not received in time will be ignored. Tender received through authorized E-mail is also acceptable. However, in time submission of tender in tender box shall be the responsibility of the bidder, sent through any mode. Documents submitted with the offer / bid shall be signed and stamped in each page by authorized representative of the bidder.
- e) Any additional documents submitted by supplier / bidder, during processing of registration application / tender or after placement of order shall not be accepted unless it is submitted with forwarding letter and duly signed and stamped.
- f) The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, shall be rejected. The cutting / overwriting in the bid / offer must be duly attested by the signatories to the bid. The list of firms banned by BHEL is available on BHEL web site www.bhel.com.
- g) Being PMD vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list.
- h) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 2 Crore or more.
- i) In case of open tender, technically qualified unregistered bidders may apply online for registration through <http://www.bhel.com/index.php/vender>.
- j) BHEL reserves the right to award tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders). BHEL can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.
- k) In case of e-Tendering (Online bidding through e-portal), offline bid submitted in hard copy or in any other form by the vendor / supplier will not be accepted and will be rejected out rightly. Only e-portal bid will be accepted.

4. TENDER OPENING.

Tender opening is scheduled to start in the Tender Room at 2:00 PM, on the due date. Therefore, bid / quotations must reach this office / tender Box latest by 1:45 PM on due date. Only participating bidders are allowed to attend tender opening. **TENDERS RECEIVED AFTER THE SPECIFIED TIME OF THEIR 'SUBMISSION' WILL BE TREATED AS LATE TENDERS AND SHALL NOT BE CONSIDERED UNDER ANY CIRCUMSTANCES.** The bidders or their authorized representatives may be allowed to attend tender opening if duly authorized by their principals, through a tender specific letter on that particular day. General authorization letter is not acceptable.

Note: - Foreign bidders willing to attend the bid opening has to provide the requisite documents to the concerned Purchase executives for arranging gate pass for them.

5. SPECIFICATION, DRAWINGS & STANDARD.

- a) Bidders must give their detailed specification in the quotation along with relevant technical literature / catalogue etc. against the tender enquiry.
- b) The Bid should be accompanied with relevant copies of catalogues, drawings or specification as per tender enquiry.

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



BHARAT HEAVY ELECTRICALS LIMITED

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If these documents are not furnished, the offer is liable to be rejected.

- c) Wherever national / international (N/IN) standards are referred, the latest N/IN standards are to be followed. Mention year & date of standard revision that shall be followed for the supply.
- d) All Drawings and Standards are proprietary of BHEL. It must not be used in anyway detrimental to the interest of BHEL or without permission of BHEL.

6. PRICE SCHEDULE.

- a) Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 status.
- b) Prices quoted should not be more than the prices quoted to any other BHEL units / offices / divisions. Vendor to submit copy of latest Purchase Order placed by any unit of BHEL for similar items in the technical bid. In case no order has been placed on such items, specific confirmation that no order has been placed on such items should be provided.
- c) Prices should be quoted on F.O.R. Destination basis. Transit insurance shall be arranged by BHEL and not to be included in the prices. The offers quoted on other than F.O.R destination basis may result in non-consideration of such bids.
- d) In case BHEL accepts the EX-Works prices, such offers will be loaded by 1.5% of EX-Works value towards freight or with actual freight charges as per BHEL freight rate contract whichever is higher.
- e) In case of Indigenous items covered by DGS & D Rate Contract, the bidders should submit latest valid copy of the rate contract along with bid / quotation
- f) Applicable **IGST / CGST / SGST** and any other statutory levy should be indicated separately and clearly in the bid / quotation.

g) Bidders can dispatch goods through any Indian Bank Association approved transporters having their branch at HARIDWAR / destination. If material is dispatched through other than Indian Bank Association approved transporter, material to be delivered on door delivery BHEL Stores basis.

h) In case of dispatch of material through any other unapproved transporter, payment shall be made only after receipt of material and any additional charges payable to the transporter shall be to the bidder's account.

i) Any demurrage / godown rent payable to the transporter / or to godown's owner due to any delay attributed by the supplier shall be recovered from supplier's account.

j) Currency of Evaluation shall be INR.

NB: Financial evaluation of L1, L2 Status will be on the basis of Landed Cost to BHEL.

7. REVERSE AUCTION.

Wherever RA is declared in the special terms and conditions of tender enquiry, following shall be applicable and Bidders to confirm the same:

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."

8. DELIVERY TERMS.

- a) Goods shall be delivered on 'FOR Destination' basis to the named destination unless otherwise called for in the tender enquiry.
- b) Loading on account of 3rd party inspection charges in case of Indian bidders shall be 0.20%.



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General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

9. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY.

a) Where items of Purchase Order are independently usable.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the Gross Value payable to the vendor (Before LD) against such supplies excluding taxes and duties.

b) Where the total items are required for a main equipment and items are interdependent.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on total value of Purchase Order subject to maximum of 10% of the total value of Purchase Order. Purchase Order value for this purpose shall be the Total Gross Value payable to the vendor (Before LD) excluding taxes and duties.

c) Bidders are requested to quote the best delivery meeting the delivery requirements. BHEL reserves the right to reject the offers not meeting BHEL's delivery requirement.

d) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

e) Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.

f) DELIVERY IN CASE OF REJECTION: In case the material is rejected, then date of replacement will be considered as the actual date of delivery.

g) DELIVERY AGAINST BANK DOCUMENTS: In case payment terms quoted by bidder are documents through bank, and the delivery terms being "FOR Haridwar / FOR Transporter Go-down" then date of delivery will be date of intimation by transporter / bidder of delivery of material at Haridwar for the LD purpose.

h) Where the payments are through bank, the documents may be presented for negotiation to BHEL authorized / nominated bank.

i) Payment of Liquidated Damages (LD) shall not in any way relieve the vendor from any of its obligations & liabilities under the contract.

10. PAYMENT TERMS.

a) BHEL's standard payment term is Payment after receipt and acceptance of materials / items at HEEP, BHEL-Store or at desired destination unless otherwise specified in Special Terms attached to the tender enquiry.

b) BHEL reserves the right to accept or reject the offer of the bidder who quotes the payment term other than BHEL's standard payment term.

c) Loading on account of deviation in payment terms shall be done as per extant rules of BHEL-Haridwar.

d) 100% payment along with taxes, freight & insurance will be made after receipt and acceptance of material and within 75 days from the date of invoice subject to submission of non-discrepant documents within 15 days of supply as per terms and conditions of Purchase Order. In case any discrepancy found in the documents, BHEL will notify the same to vendor within 7 days of receipt. Vendor has to clear all the discrepancies in one go within 7 days thereafter else the payment of vendor may get delayed.

e) For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, the payment will be made within 45 days or as prescribed in the relevant act.

f) Adherence to the above time schedule of payment is contingent upon Vendor complying with GST Rules w.r.t availment of Input Tax Credit by BHEL.

g) In case GST credit is delayed / denied to BHEL, due to non / delayed receipt of goods and / or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied / leviable on BHEL.

h) The taxes and duties that are reimbursed would be the ones applicable as on the contractual Purchase order delivery date or the amount actually paid whichever is less.

**BHARAT HEAVY ELECTRICALS LIMITED**

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)**For Indian Bidders (Version June-2021, Rev: 06)****i) The loading criteria for the different payment terms shall be as under:**

Payment Terms	Days of Loading
After Receipt & Acceptance of material within 75 days of supply.	No Loading
Against Delivery at BHEL-Stores Haridwar.	45
Against documents through bank (CAD):	45
Letter of Credit (LC)	120
Usance LC	No Loading if usance period is > 120 Days.
	Loading of days' difference i.e. difference between 120 days and usance period if the usance period is < 75 days.
Advance	Delivery Period + 120 Days - Advance Payment Days.

11. TAXES & DUTIES.

- a) The bidder to specify in their offer (part 1 bid) the category of their registration under GST like Registered, Unregistered and composite dealer.
- b) The provisional GST registration number of Bharat Heavy Electrical Ltd, Heavy Electricals Equipment Plant, Ranipur, Haridwar is "05AAACB4146P1ZL" with state Code as "05" and State Name as "Uttarakhand".
- c) Please quote our provisional GST registration number in all invoices raised for supply of goods and services under GST regime and also ensure filing of timely return and payment of tax and compliance of other applicable provisions on supplier under GST regime.
- d) No GST will be reimbursed to unregistered or composite dealer. In the event, any GST is quoted by composite dealer, the same shall be added to the cost of supply in evaluating the bid.
- e) Since, input credit of GST will be available to BHEL-Haridwar only after correct filing of return and payment of applicable GST by supplier, reimbursement of GST shall be made by

BHEL-Haridwar on matching of vendor inputs at GST portal, ensuring availability of input credit to BHEL Haridwar. Payment of GST will be made to vendor after matching of input credit and vendor to ensure submission of their invoices along with consent to accept payment of tax after such matching in all cases where bills are submitted directly to BHEL-Haridwar or through bank or under LC or through any other mode.

- f) In the event of any disallowance of input credit or applicability of interest or any other financial liability arises on BHEL-Haridwar due to any default of supplier under GST, such implication shall be to supplier's account.
- g) In the event of any change in the status of the vendor after the submission of the bid but before the supply, GST applicable at the time of supply or in the bid, based on the registration status of the vendor, whichever is lower shall be payable.
- h) Where ever applicable If PAN (Permanent Account Number) of the recipient is not available, income tax is deductible either at the normal rate or at the rate of 20 percent, whichever is higher as per Section 206AA of Indian Income Tax Act 1961.
- i) The bidder shall clearly indicate HSN (*Harmonised System Nomenclature*) / SAC (*Service Accounting Code*), its description and applicable rate of GST for each item in his techno-commercial bid.
- j) Statutory Variation in Taxes & duties as applicable at the time of supply shall be payable. However, in the event of no change in law but bidder quoting certain tax structure in bid document which is lower than the applicable one, such amount shall be the maximum amount of tax that can be claimed by bidder.
- k) **IMPORTED GOODS OFFERED BY INDIAN BIDDERS AGAINST DEALER INVOICE:** Wherever the material being offered is imported, the bidder must quote the prices inclusive of IGST. The rate and value of IGST as included in the price must be indicated separately. In case quantum of IGST is not mentioned by the bidder the same will not be considered for



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evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

- l) In case of directly dispatchable items to Customer's Site, BHEL-Haridwar will inform the GST registration number of the respective customer which must be mentioned on the vendor's invoice. Vendor to ensure availability of such information from BHEL-Haridwar before dispatch of any material. However, while filing GSTN-1, BHEL Haridwar GSTN number to be quoted.

Note: - Vendors must ensure compliance of all the applicable rules and procedure as envisaged in the GST Regime. Any loss to BHEL-Haridwar due to fault / non-compliance by the vendor will be to the vendor's account.

12. BANK GUARANTEE.

In case the bank guarantees are required to be deposited towards security deposit/performance guarantee or for any other purpose as per the terms of this tender enquiry, such bank guarantees of the requisite value in the denominated currency of the purchase order should be from one of the Indian branch of BHEL consortium banks and the bank guarantee should be in the proforma as prescribed by BHEL. The proforma of bank guarantee and the list of consortium banks are displayed at BHEL website www.bhelhwr.co.in. However, in case the bank guarantee is not from BHEL consortium banks, then the bidder has to get the bank guarantee confirmed from one of the Indian branch of BHEL consortium banks and the bank charges for such confirmation will be borne by the bidder.

13. GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS.

Goods shall comply with the specifications for material, workmanship and performance. Unless otherwise specified, the warranty shall be for a period of 18 months from the date of receipt. If the delivery is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Seller at his cost and

replaced on Delivered Duty Paid (DDP) (FOR - BHEL Stores / designated destination basis) within such period. In the event of the Seller's failure to comply, Purchaser may take action as appropriate, including Repair / Replenish rejected goods & disposal of rejections, at the risk & cost of the Seller. In case the defects attributable to Seller are detected during processing of the goods at BHEL or at our subcontractor's works, the Seller shall be responsible for free replacement / repair of the goods as required by BHEL.

- b) **RETURN OF REJECTED MATERIAL FOR REPLACEMENT:** The bidder shall have to pay 5% incidental charges while taking back supplied material if it is found rejected on receipt. The rejected material shall be sent back only after receipt of replacement / submission of BG / refund of amount paid.

14. QUALITY REQUIREMENT.

Your bid / quotation should have specific confirmation regarding meeting all our quality requirements such as. (i) Test Certificate (TC), (ii) Guarantee Certificate (GC) / Warranty Certificate (WC), (iii) Quality Plan (QP) (if applicable); and (iv) Pre-Dispatch Inspection at your works (if applicable).

15. VALIDITY.

The quotation should be valid for a minimum period of 90 days effective from the date of opening of tender, unless otherwise specified in the tender enquiry.

16. RIGHT OF ACCEPTANCE.

- a) **BHARAT HEAVY ELECTRICALS LIMITED HARIDWAR** reserves the right to reject any or all the bids / quotations without assigning any reason thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Bidders should be prepared to accept order for reduced quantity without any extra charges.
- b) Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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- c) Unsolicited discounts / revised offers / bids given after Part-1 bid opening shall not be accepted. No change in price will be permitted within the validity period asked for in the tender enquiry.
- d) In case of changes in scope and / or technical specification and / or commercial terms & conditions having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on their price bids. In case a bidder opts to submit revised price bid instead of impact called for then the latest price bid shall prevail. However, in both situations, original price bid will be necessarily opened.
- e) The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
- f) BHEL reserves the right to short close the existing Purchase Order / Rate Contract / Work Order or any extension thereof at any stage.

17. TRANSIT INSURANCE.

- a) Transit Insurance will be covered by BHEL under its open Insurance Policy. Seller shall inform dispatch particulars (Purchase Order, RR /GR, Invoice value etc.) to "Finance department (Store bill Section), BHEL Ranipur, Haridwar (Uttarakhand-India) with value of consignment to the Purchaser within 07 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of seller to inform dispatch particulars will make him liable to pay for any transit damages / losses suffered by the Purchaser.
- b) If Quoted Prices are inclusive of transit insurance, no weightage shall be given while evaluating the bids for Cost of Insurance, being in BHEL Scope.

18. RISK PURCHASE.

In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law.

19. FORCE MAJEURE CLAUSE.

Notwithstanding any other thing contained anywhere else in the contract or PO (Purchase Order), In case the discharge of obligation under the contract by either party is impeded or made unreasonably onerous, neither party shall be considered in breach of the contract to the extent that performance of their respective obligation is prevented by an event of Force Majeure that arises after the effective date (PO date).

In the above clause, Force Majeure means an event beyond the control of the parties to the contract which prevents a party from complying with any obligation of the contract including but not limited to:

- a) Act of God (Such as but not limited to earthquake, drought, tidal waves, floods etc.).
- b) War (whether war be declared or not), Hostilities Invasion, Act of foreign enemy etc.
- c) Rebellion, revolution, insurrection, civil war etc.
- d) Contamination of Radio Activity from any nuclear fuel or from any other nuclear waste or any other hazardous materials.
- e) Riots, commotions, strike unless restricted to the employees of supplier.
- f) Acts of terrorism.



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- g) Other unforeseeable circumstances beyond the control of the parties and which the affected party cannot avoid even by using its best efforts.
- h) Cancellation of contract by customer.
- i) Change in law / government. Regulation making the performance impossible.
- j) Pandemic or Epidemic.

The party claiming to be affected by force majeure shall notify the other party in writing immediately without delay on the intervention and on the cessation of such circumstances.

Irrespective of any extension of time, if an event of force majeure occurs and its effect continues for more than 180 days the affected party shall have right to cancel the contract.

As soon as reasonably practicable following the date of commencement of a Force Majeure Event, and within a reasonable time following the date of termination of a Force Majeure Event, either Party invoking it shall submit to the other Party reasonable proof of the nature of the Force Majeure Event and of its effect upon the performance of the Party's obligations under this Agreement.

The party shall, and shall ensure that its Subcontractors shall, at all times take all reasonable steps within their respective powers and consistent with Good Operating Practices (but without incurring unreasonable additional costs) to:

- a) Prevent Force Majeure Events affecting the performance of the party's obligations under this Agreement.
- b) mitigate the effect of any Force Majeure Event and
- c) Comply with its obligations under this Agreement.

If the war like situation has developed in a country where a seller's works is located in this P.O. or there is political instability and Indian Embassy located in that country forbids or advises for not having any business dealing with the sellers located in such zone / region/ country, then BHEL reserves the right to cancel the order.

20. NON-DISCLOSURE AGREEMENT.

All Drawing and Technical Documents relating to the product or it's manufacture submitted by one party to the other, prior or

subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others or to gain a commercial advantage. BHEL reserves the right to claim damages from the bidder, or take appropriate action as deemed fit against the bidder, for any infringement of the provisions contained herein as available under law or equity.

21. SETTLEMENT OF DISPUTES / ARBITRATION.

In case of any dispute arising out of as in connection with this contract, the same shall be referred to arbitration under Arbitration & Conciliation Act 1996 of a sole arbitrator who shall be appointed by mutual consent of the parties. The seat & venue of arbitration shall be Haridwar.

The proceedings shall be conducted in English. The Governing law of contract shall be the substantive law of India.

22. WHARFAGE / DEMURRAGE RESPONSIBILITY.

In the event of delay in receipt of documents by Manager (Stores-Shipping) BHEL-Haridwar and in case where dispatches are made through Unapproved Transporter the sole responsibility for wharfage / demurrage for such delay shall be that of supplier.

23. CONDITIONS FOR AVAILING MICRO & SMALL ENTERPRISES (MSE'S) BENEFITS.

- a) "MSE Suppliers can avail the intended benefits only if they submit along with the 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 attested copy of a CA certificate



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(Format enclosed at annexure-1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two-part bid) or vendor has to give Udyog Adhar Memorandum (UAM). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is found or the requisite documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above require document are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. **UAM need not required to be notarized or attested.**

b) Any new supplier will be eligible for registration with BHEL as MSE supplier provided at least any one of the following documents are submitted along with application for registration: -

1. Udyog Adhar Memorandum (UAM).
2. Valid National Small Industries Commission (NSIC) Certificate.
3. Entrepreneurs Memorandum part II (EM II) certificate (valid based on deemed validity of 5 years) or
4. EM II certificate along with attested copy of CA Certificate (as per prescribed format at annexure-A) applicable for the relevant financial year (latest audited), where the deemed validity of EM II is over.
5. However, credentials of all MSE suppliers will be verified before advancing the intended benefits.
6. MSE bidders claiming SC/ST status will have to submit SC/ST certificate of the Proprietor from competent authority. Attested (notarized or attested by Gazetted officer) copy to be submitted along with the offer.
7. In case techno-commercial accepted bidders include MSE source and their prices (based on landed cost – considering quoted prices) are within the price band of 15% w.r.t. L-1 bidder, then BHEL can offer **25%** of quantity of respective item (rounded off to nearest number) to MSE bidders at L-1 price and in case, more than one MSE bidder is in 15 % band and the same is accepted by more than one MSE bidders then **25%** quantities of respective items will be considered for ordering on proportionate basis amongst MSE bidders.

8. There will be minimum of **3%** reservation for women owned MSEs within the above mentioned 25% reservation.
9. The reservation for MSEs owned by SC/ST will be **6.25%** { 25% out of target of 25% - refer para 4 of Public Procurement Policy for the Micro and Small Enterprises(MSEs)}.
10. The definition of MSEs owned by Women Entrepreneurs is clarified as under:
 - a) In case of proprietary MSE, proprietor shall be Woman.
 - b) In case of partnership MSE, the Woman partners shall be holding at least 51% of share in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by Women promoters.
11. The definition of MSEs owned by SC/ST is clarified as under:
 - a) In case of proprietary MSE, proprietor(s) shall be SC/ST.
 - b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% of shares in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by SC/ST promoters.
12. While distributing the **25%** quantity amongst MSE bidders the decimal points in quantity shall be ignored for all the bidders except the L-1 amongst MSE bidders. Balance quantity after allocating the quantity to other MSE bidders ignoring the quantities in decimal, shall be given to L-1 (amongst MSE) bidder. However, if there are more than one MSE bidder at the same price level than preference for additional quantities due to ignoring off the decimal (as mentioned above) shall be given to the bidder offering favorable terms to BHEL and if the conditions offered are also same then preference will be given to the bidder having high SPR rating.
13. In case there are more than one MSE bidders (with different landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given to the MSE bidder with lowest landed cost.
14. In case there are more than one MSE bidders (with same landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given first, based on the favorable terms in the bid and in case terms are also same, the bidder with high SPR rating shall be given preference.
15. If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.



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16. Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.

17. "As per the OM No. F.No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), "Traders and agents should not be allowed to avail the benefits extended under the PP Policy."

In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc. for the items offered but not manufactured by themselves."

24. INFORMATION TO THE BIDDERS.

a) Purchase related information is available at our Business-to-Business (B2B) Portal available on our website <https://hwr.bhel.com>. The user ID & password can be obtained by sending a request to concerned purchase executives.

b) Intimate your change in mail address or communication address or changes, if any, by email to AGM (SDX/MM) giving your bidder Code.

c) Please resolve your rejections and unexecuted overdue purchase order immediately which are posted at our B2B Portal, which can be visited through our site <https://hwr.bhel.com>

d) Copy of this Tender Enquiry is being sent through the post.

e) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

f) Supplier must upload digitally signed e-Invoice on B2B portal for processing of Bills.

In other cases, inked signed hard copy of Invoice to be submitted for processing of Bills.

25. MAKE IN INDIA (GOVT-NOTIFICATION).

A. This tender enquiry shall be governed by notification no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 of government of INDIA and subsequent circulars issued afterwards. Accordingly, the minimum local content, the margin of purchase preference and the procedure for preference to make in INDIA shall be adhered.

B. The margin of purchase preference shall be 20%.

- 'Class-I local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this order.
- 'Class-II local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this order.
- 'Non- local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this order.

C. Vendor to specifically confirm if they are Class-I or Class-II local supplier or not as per above mentioned notification. Accordingly, the 'Class-I local supplier' / 'Class-II local Supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' / 'Class-II local Supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

D. In cases of Procurement for a Value in Excess of Rs. 10 Crores, the 'Class-I local supplier' / 'Class-II local Supplier' shall be required to provide a Certificate from the Statutory Auditor or Cost Auditor of the Company (in the case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies) giving the percentage of Local Content.



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E. Requirement of Purchase Preference:

Purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified hereunder -

a. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are divisible in nature, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among All qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local supplier, then such balance quantity may also be ordered on the L1 bidder".

b. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling

within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.

iii. In case such lowest eligible 'Class-I local supplier', fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 prices, the contract may be awarded to the L1 bidder.

c. 'Class-II local supplier' will not get purchase preference in any procurement, undertaken by procuring entities.

F. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

G. Procurements where estimated value to be procured is less than Rs. 5 lakhs shall be exempted from GOI order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020.

H. For procurement of Goods & Services which are divisible in nature, following shall be operated for **MSE bidders** under Public procurement Policy for the Micro and Small Enterprises (MSEs) Amendment Order, 2019, Ref. No. AA: SSP: MSE: Amndt, dtd. 30.11.2018, Circular No. 44 of 2018-19;-

a. If L1 bid is not from "Class-I local Supplier" and price quoted by MSE bidder falls within the margin of Purchase preference (L1+15% for MSEs), then 25 % of total order quantity of respective item (rounded off to nearest number) shall be awarded to MSE bidder, subject to MSE bidder matching the L1 Price. Out of Remaining 75% quantity, distribution shall be operated as per below sub-clause (2) –

b. If "Class- I Local Supplier" (Next to L1, other than MSE) quoted price falling within the Margin of Purchase Preference, and "Class-I local supplier" matches the L1 price,



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then 50% of remaining Quantity (after allocation of 25% to MSE) i.e. 37.5% shall be awarded to local supplier and 37.5% shall be awarded to foreign bidder.

Note: L1 Price refers to lowest evaluated / landed cost to Company.

For Further details, please refer GOI order no. P-45021 / 2 / 2017 - PP (BE-II) dated 04.06.2020.

26. RESTRICTIONS UNDER RULE 144(XI) OF THE GENERAL FINANCIAL RULES (GFRs), 2017

All provisions of Order No. F.No.6/18/2019-PPD of Department of Expenditure (DoE) shall be applicable for this tender enquiry (Order copy is available at <https://doe.gov.in/procurement-policy-divisions>). Accordingly, any bidder from a country which shares a land border with India (except the countries to which the Govt. of India has extended lines of credit or in which the Govt. of India is engaged in development projects for which list is available at <https://www.mea.gov.in/>) will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as specified in Annex I of the said Order of DoE.

Updated list of the countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

For the purpose of this order, definition of Bidder from a country which shares a land border with India shall be same as defined in the Annex III of the said order.

Registration with the competent authority as stipulated in the said order is responsibility of bidder. Bidder has to submit a certificate certifying following along with offer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that bidder (.... Name of Bidder) is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that bidder (.....Name of bidder) fulfils all requirements in this regard and is eligible to be considered"

If the bidder is from such country which shares a land border with India evidence of valid registration by the Competent Authority shall also be attached along with offer."

27. NOTE.

- Special conditions of enquiry, if enclosed by BHEL, will supersede the respective standard / general terms of enquiry.
 - Any other Standard terms and Conditions of the bidder attached / referred against the tender enquiry will be treated as null and void ab initio.
 - In order to protect the commercial interests of BHEL, it becomes necessary to take action against suppliers / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business / money / reputation, indulged in malpractices, cheating, bribery, fraud or any other misconducts or formation of cartel so as to influence the bidding process or influence the price etc. Guide- lines for Suspension of Business Dealings with Suppliers / Contractors shall prevail over which is available at BHEL website <http://www.bhel.com>
 - 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.
 - "BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below;
- Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
 - Accident:** Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



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occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ **offices and precincts** thereof , project execution , erection and commissioning, services, repairs and maintenance, trouble shooting, serving , overhaul, renovation and retrofitting , trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ project sites.

3. Compensation in respect of each of the victims:

- (i) In the event of death or **permanent disability** resulting from **Loss of both limbs**: Rs. 10,00,000/- (Rs. Ten Lakh).
- (ii) In the event of **other permanent disability**: Rs. 7,00,000/- (Rs. Seven Lakh).

4. Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to Section 2(l) of the Employees Compensation Act, 1923."

f) The bidder shall be in compliance with applicable laws, rules and regulations throughout the terms of the contract for conducting its business generally and to perform its obligations under this contract.



BILL OF MATERIAL

Printed
On:26.02.2024

BOM No: 91074232000

Var: 00

Revno: 7

Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET PART-FAB

Tot wt: 34419.39

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight
Qty(Total)	Description				Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description		GRP	Fab Wt
0			91074232000 00			34419.39
1(1)			LP INNER CASING INLET PART-FAB		Main Assembly	
MF	CD				N	
101			11074258101 00 00	HW1041801882	AA10401	2758.0
1(1)			ENCLOSURE PLATE		~P265GH	
MF	DR					
102			31074258102 00	W95310742093		1181.0
2(2)			JOINT FLANGE			
FE	DR					
103			21074258103 00 00	AA1041801181	AA10401	790.0
2(2)			HALF CONE		~P265GH	
MF	DR					
104			21074258104 00 00	AA1041801157	AA10401	532.0
2(2)			HALF CONE		~P265GH	
MF	DR					
105			31074258105 00 00	AA1041801483	AA10401	564.0
2(2)			HALF RING		~P265GH	
MF	DR					
108			31074258108 00 00	AA1041801289	AA10401	2190.0
2(2)			HALF RING		~P265GH	
MF	DR					
109			31074258109 00 00	HW1050268083	HW10568	12.2
8(8)			ANCHOR		16MO3	
MF	DR					
110			31074258110 00 00	HW1041801963	AA10401	5.2
2(2)			PLATE		~P265GH	
MF	DR					
111			31074258111 00 00	HW1041801963	AA10401	5.0
2(2)			PLATE		~P265GH	
MF	DR					
114			41074258114 00	AA1041801335	AA10401	50.1
4(4)			JOINT FLANGE		~P265GH+Z15	
MF	DR					
121			21074258121 00 00	HW1041801998	AA10401	121.0
2(2)			PLATE		~P265GH	
MF	DR					
122			21074258122 00 00	HW1041801998	AA10401	304.0
2(2)			PLATE		~P265GH	
MF	DR					
123			21074258123 00 00	AA1041801483	AA10401	292.0
4(4)			FLANGE		~P265GH+Z15	
MF	DR					
124			31074258124 00 00	AA1041801190	AA10401	59.0
2(2)			PLATE		~P265GH+Z15	
MF	DR					
125			31074258125 00 00	AA1041801190	AA10401	131.0
2(2)			PLATE		~P265GH	
MF	DR					

ENGG

Initial Date

Worked By stegdl 05.01.2017

Checked By stegdl 06.01.2017

Approved By stedkr 10.02.2017



BILL OF MATERIAL

Printed
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BOM No: 91074232000

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Description: LP INNER CASING INLET PART-FAB

Tot wt: 34419.39

Item No	Qty(Total)	Zone	Drawingno Var Mvar	Description	Mat Code	Mat Spec	Weight
Typ	Cat	Zone	Var/Matl. Description			Assy. Remarks	Fab Wt
148			41074258148 00 00	CONNECTION	AA1010209248	AA10109	3.5
3(3)						~P265GH	
MF	DR						
149			21074258149 00 00	BLOCK FLANGE	AA1041801181	AA10401	185.0
1(1)						~P265GH	
MF	DR						
150			41074258150 00 00	RING	AA1041801297	AA10401	536.0
1(1)						~P265GH+Z15	
MF	DR						
151			31074258151 00 00	PIPE	HW1041801998	AA10401	148.0
1(1)						~P265GH	
MF	DR						
152			41074258152 00 00	HEXAGON HEAD SCREW (M30*130)	W97310742044	PROPERTY CLASS: 5.6	0.92
30(30)							
BO	DR						
153			41074258153 00 00	BACKING PLATE	AA1011819023	AA10119	3.5
8(8)						~S235JR	
MF							
156			31074258156 00 00	ANCHOR	HW1050268091	HW10568	15.3
2(2)						16MO3	
MF	DR						
157			31074258157 00	JOINT FLANGE	HW1055276025	AA19341	74.5
4(4)							
FI	DR						
202			31074258102 00 00	JOINT FLANGE	W95310742093	~P265GH+Z15	1181.0
2(2)							
FE	DR						
205			31074258105 00 00	HALF RING	AA1041801483	AA10401	564.0
2(2)						~P265GH	
MF	DR						
208			31074258108 00 00	HALF RING	AA1041801289	AA10401	2190.0
2(2)						~P265GH	
MF	DR						
209			31074258109 00 00	ANCHOR	HW1050268083	HW10568	12.2
8(8)						16MO3	
MF	DR						
211			11074232211 00 00	ENCLOSURE PLATE	HW1041801998	AA10401	3327.0
1(1)						P265GH+Z15	
MF	DR						
212			31074258212 00 00	HALF CONE	AA1041801181	AA10401	668.0
2(2)						~P265GH	
MF	DR						
213			21074258213 00 00	HALF CONE	AA1041801157	AA10401	557.0
2(2)						~P265GH	
MF	DR						
214			41074258114 00 00	JOINT FLANGE	AA1041801335	AA10401	50.1
4(4)						~P265GH+Z15	
MF	DR						

ENGG

Initial Date

Worked By stegdl 05.01.2017

Checked By stegdl 06.01.2017

Approved By stedkr 10.02.2017



BILL OF MATERIAL

Printed
On:26.02.2024

BOM No: 91074232000

Var: 00

Revno: 7

Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET PART-FAB

Tot wt: 34419.39

Item No	Qty(Total)	Zone	Drawingno Var Mvar	Description	Mat Code	Mat Spec	Weight
Typ	Cat		Var/Matl. Description			Assy. Remarks	Fab Wt
216			21074258216 00 00	PIPE	AA1041801076	AA10401	156.0
2(2)						~P265GH	
MF	DR						
217			21074258217 00 00	PIPE	AA1041801076	AA10401	156.0
2(2)						~P265GH	
MF	DR						
218			31074258218 00 00	PLATE	AA1041801220	AA10401	4.8
2(2)						~P265GH	
MF	DR						
219			31074258219 00 00	PLATE	AA1041801220	AA10401	4.8
2(2)						~P265GH	
MF	DR						
220			31074258220 00 00	PLATE	AA1041801238	AA10401	21.4
2(2)						~P265GH	
MF	DR						
231			31074258231 00 00	PIPE	AA1041801076	AA10401	81.4
2(2)						~P265GH	
MF	DR						
234			21074258234 00 00	PLATE	AA1041801076	AA10401	33.4
2(2)						~P265GH	
MF	DR						
235			21074258235 00 00	PLATE	AA1041801076	AA10401	33.4
2(2)						~P265GH	
MF	DR						
238			31074258238 00 00	PIPE	AA1041801076	AA10401	33.4
4(4)						~P265GH	
MF	DR						
239			41074258239 00 00	RIB	AA1041801211	AA10401	4.1
4(4)						~P265GH	
MF	DR						
242			21074232242 00 00	PLATE	HW1041801998	AA10401	183.0
2(2)						P265GH+Z15	
MF	DR						
253			41074258253 00 00	BACKING PLATE	AA1011819023	AA10119	4.82
4(4)						~235JR	
MF	DR						
255			31074258255 00 00	PLATE	AA1041801246	AA10401	13.4
2(2)						~P265GH	
MF	DR						
256			31074258156 00 00	ANCHOR	HW1050268091	HW10568	15.3
2(2)						16MO3	
MF	DR						
257			31074258157 00 00	JOINT FLANGE	HW1055276025	AA19341	74.5
4(4)						~P265GH+Z15	
FI	DR						
258			41074258258 00 00	BACKING PLATE	AA1011819023	AA10119	4.81
4(4)						~235JR	
MF	DR						

ENGG

Initial Date

Worked By stegdl 05.01.2017

Checked By stegdl 06.01.2017

Approved By stedkr 10.02.2017



BILL OF MATERIAL

Printed
On: 26.02.2024

BOM No: 91074232000 Var: 00 Revno: 7 Rev Date: 01.08.2023
Description: LP INNER CASING INLET PART-FAB Tot wt: 34419.39

Printed By:

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight
Qty(Total)	Description				Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description		GRP	Fab Wt
259			31074258259 00 00	HW1041801998	AA10401	127.3
1(1)			PLATE		P265GH+Z15	
MF	DR					

BOM - 91074232000 00

ENGG

Initial Date

Worked By stegdl 05.01.2017
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Approved By stedkr 10.02.2017



BILL OF MATERIAL

Printed
On: 26.02.2024

BOM No: 91074232500

Var: 00

Revno: 5

Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET FAB LP-2

Tot wt: 34419.39

Item No	Qty(Total)	Zone	Drawingno Var Mvar	Description	Mat Code	Mat Spec	Weight
Typ	Cat		Var/Matl. Description			Assy. Remarks	Fab Wt
0			91074232500 00				34419.39
1(1)			LP INNER CASING INLET FAB LP-2			Main Assembly	
MF	CD					N	
101			11074258101 00		HW1041801882	AA10401	2758.0
1(1)			ENCLOSURE PLATE			~P265GH	
MF	DR						
102			31074258102 00		W95310742093		1181.0
2(2)			JOINT FLANGE			~P265GH+Z15	
FE	DR						
103			21074258103 00		AA1041801181	AA10401	790.0
2(2)			HALF CONE			~P265GH	
MF	DR						
104			21074258104 00		AA1041801157	AA10401	532.0
2(2)			HALF CONE			~P265GH	
MF	DR						
105			31074258105 00		AA1041801483	AA10401	564.0
2(2)			HALF RING			~P265GH	
MF	DR						
108			31074258208 00		AA1041801289	AA10401	1972.0
2(2)			HALF RING			P265GH+Z15	
MF	DR						
109			31074258109 00		HW1050268083	HW10568	12.2
8(8)			ANCHOR			16MO3	
MF	DR						
110			31074258110 00		HW1041801963	AA10401	5.2
2(2)			PLATE			~P265GH	
MF	DR						
111			31074258111 00		HW1041801963	AA10401	5.0
2(2)			PLATE			~P265GH	
MF	DR						
114			41074258114 00		AA1041801335	AA10401	50.1
4(4)			JOINT FLANGE			~P265GH+Z15	
MF	DR						
121			21074258121 00		HW1041801998	AA10401	121.0
2(2)			PLATE			~P265GH	
MF	DR						
122			21074258122 00		HW1041801998	AA10401	304.0
2(2)			PLATE			~P265GH	
MF	DR						
123			21074258123 00		AA1041801483	AA10401	292.0
4(4)			FLANGE			~P265GH+Z15	
MF	DR						
124			31074258124 00		AA1041801190	AA10401	59.0
2(2)			PLATE			~P265GH+Z15	
MF	DR						
125			31074258125 00		AA1041801190	AA10401	131.0
2(2)			PLATE			~P265GH	
MF	DR						

ENGG

Initial Date

Worked By stegdl 04.10.2017

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Approved By stedkr 13.10.2017



BILL OF MATERIAL

Printed
On: 26.02.2024

BOM No: 91074232500

Var: 00

Revno: 5

Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET FAB LP-2

Tot wt: 34419.39

Item No	Qty(Total)	Zone	Drawingno Var Mvar	Description	Mat Code	Mat Spec	Weight
Typ	Cat	Zone	Var/Matl. Description			Assy. Remarks	Fab Wt
148			41074258148 00	CONNECTION	AA1010209248	AA10109	3.5
3(3)						~P265GH	
MF	DR						
149			21074258149 00	BLOCK FLANGE	AA1041801181	AA10401	185.0
1(1)						~P265GH	
MF	DR						
150			41074258150 00	RING	AA1041801297	AA10401	536.0
1(1)						~P265GH+Z15	
MF	DR						
151			31074258151 00	PIPE	HW1041801998	AA10401	148.0
1(1)						~P265GH	
MF	DR						
152			41074258152 00	HEXAGON HEAD SCREW (M30*130)	W97310742044	PROPERTY CLASS: 5.6	0.92
30(30)							
BO	DR						
153			41074258153 00	BACKING PLATE	AA1011819023	AA10119	3.5
8(8)						~S235JR	
MF							
156			31074258156 00	ANCHOR	HW1050268091	HW10568	15.3
2(2)						16MO3	
MF	DR						
157			31074258157 00	JOINT FLANGE	HW1055276025	AA19341	74.5
4(4)						~P265GH+Z15	
FI	DR						
202			31074258102 00	JOINT FLANGE	W95310742093	~P265GH+Z15	1181.0
2(2)							
FE	DR						
205			31074258105 00	HALF RING	AA1041801483	AA10401	564.0
2(2)						~P265GH	
MF	DR						
208			31074258208 00	HALF RING	AA1041801289	AA10401	1972.0
2(2)						P265GH+Z15	
MF	DR						
209			31074258109 00	ANCHOR	HW1050268083	HW10568	12.2
8(8)						16MO3	
MF	DR						
211			11074232211 00	ENCLOSURE PLATE	HW1041801998	AA10401	3327.0
1(1)						P265GH+Z15	
MF	DR						
212			31074258212 00	HALF CONE	AA1041801181	AA10401	668.0
2(2)						~P265GH	
MF	DR						
213			21074258213 00	HALF CONE	AA1041801157	AA10401	557.0
2(2)						~P265GH	
MF	DR						
214			41074258114 00	JOINT FLANGE	AA1041801335	AA10401	50.1
4(4)						~P265GH+Z15	
MF	DR						

ENGG

Initial Date

Worked By stegdl 04.10.2017

Checked By stegdl 04.10.2017

Approved By stedkr 13.10.2017



BILL OF MATERIAL

Printed
On:26.02.2024

BOM No: 91074232500

Var: 00

Revno: 5

Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET FAB LP-2

Tot wt: 34419.39

Item No	Qty(Total)	Zone	Drawingno Var Mvar	Description	Mat Code	Mat Spec	Weight
Typ	Cat		Var/Matl. Description			Assy. Remarks	Fab Wt
216			21074258216 00	PIPE	AA1041801076	AA10401	156.0
2(2)						~P265GH	
MF	DR						
217			21074258217 00	PIPE	AA1041801076	AA10401	156.0
2(2)						~P265GH	
MF	DR						
218			31074258218 00	PLATE	AA1041801220	AA10401	4.8
2(2)						~P265GH	
MF	DR						
219			31074258219 00	PLATE	AA1041801220	AA10401	4.8
2(2)						~P265GH	
MF	DR						
220			31074258220 00	PLATE	AA1041801238	AA10401	21.4
2(2)						~P265GH	
MF	DR						
231			31074258231 00	PIPE	AA1041801076	AA10401	81.4
2(2)						~P265GH	
MF	DR						
234			21074258234 00	PLATE	AA1041801076	AA10401	33.4
2(2)						~P265GH	
MF	DR						
235			21074258235 00	PLATE	AA1041801076	AA10401	33.4
2(2)						~P265GH	
MF	DR						
238			31074258238 00	PIPE	AA1041801076	AA10401	33.4
4(4)						~P265GH	
MF	DR						
239			41074258239 00	RIB	AA1041801211	AA10401	4.1
4(4)						~P265GH	
MF	DR						
242			21074232242 00	PLATE	HW1041801998	AA10401	183.0
2(2)						P265GH+Z15	
MF	DR						
253			41074258253 00	BACKING PLATE	AA1011819023	AA10119	4.82
4(4)						~235JR	
MF	DR						
255			31074258255 00	PLATE	AA1041801246	AA10401	13.4
2(2)						~P265GH	
MF	DR						
256			31074258156 00	ANCHOR	HW1050268091	HW10568	15.3
2(2)						16MO3	
MF	DR						
257			31074258157 00	JOINT FLANGE	HW1055276025	AA19341	74.5
4(4)						~P265GH+Z15	
FI	DR						
258			41074258258 00	BACKING PLATE	AA1011819023	AA10119	4.81
4(4)						~235JR	
MF	DR						

ENGG

Initial Date

Worked By stegdl 04.10.2017

Checked By stegdl 04.10.2017

Approved By stedkr 13.10.2017



BILL OF MATERIAL

Printed
On: 26.02.2024

BOM No: 91074232500 Var: 00 Revno: 5 Rev Date: 01.08.2023

Printed By:

Description: LP INNER CASING INLET FAB LP-2

Tot wt: 34419.39

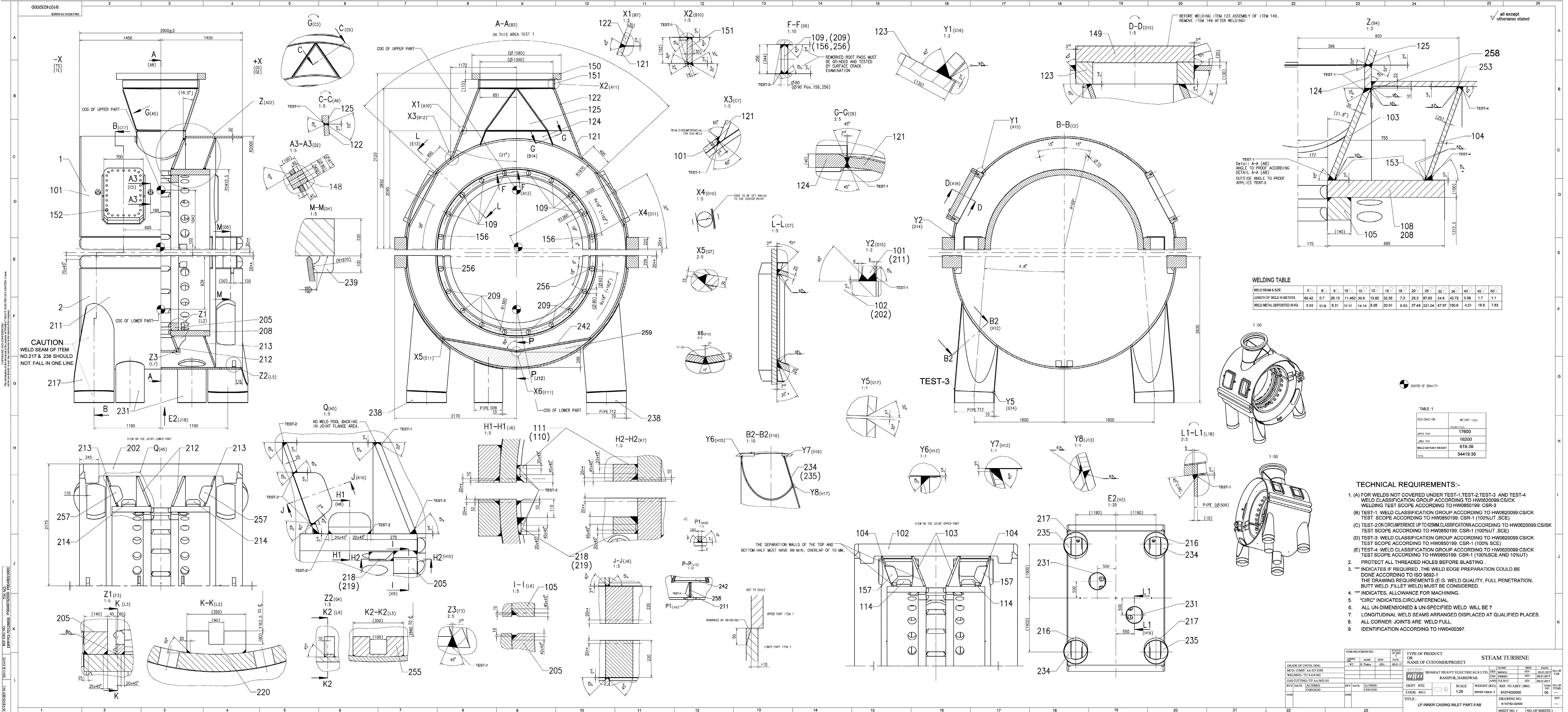
Item No	Drawingno Var Mvar		Mat Code	Mat Spec	Weight
Qty(Total)	Description			Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description	GRP	Fab Wt
259			31074258259 00	AA10401	127.3
1(1)			PLATE	P265GH+Z15	
MF	DR				

BOM - 91074232500 00

ENGG

Initial Date

Worked By stegdl 04.10.2017
Checked By stegdl 04.10.2017
Approved By stedkr 13.10.2017



WELDING TABLE

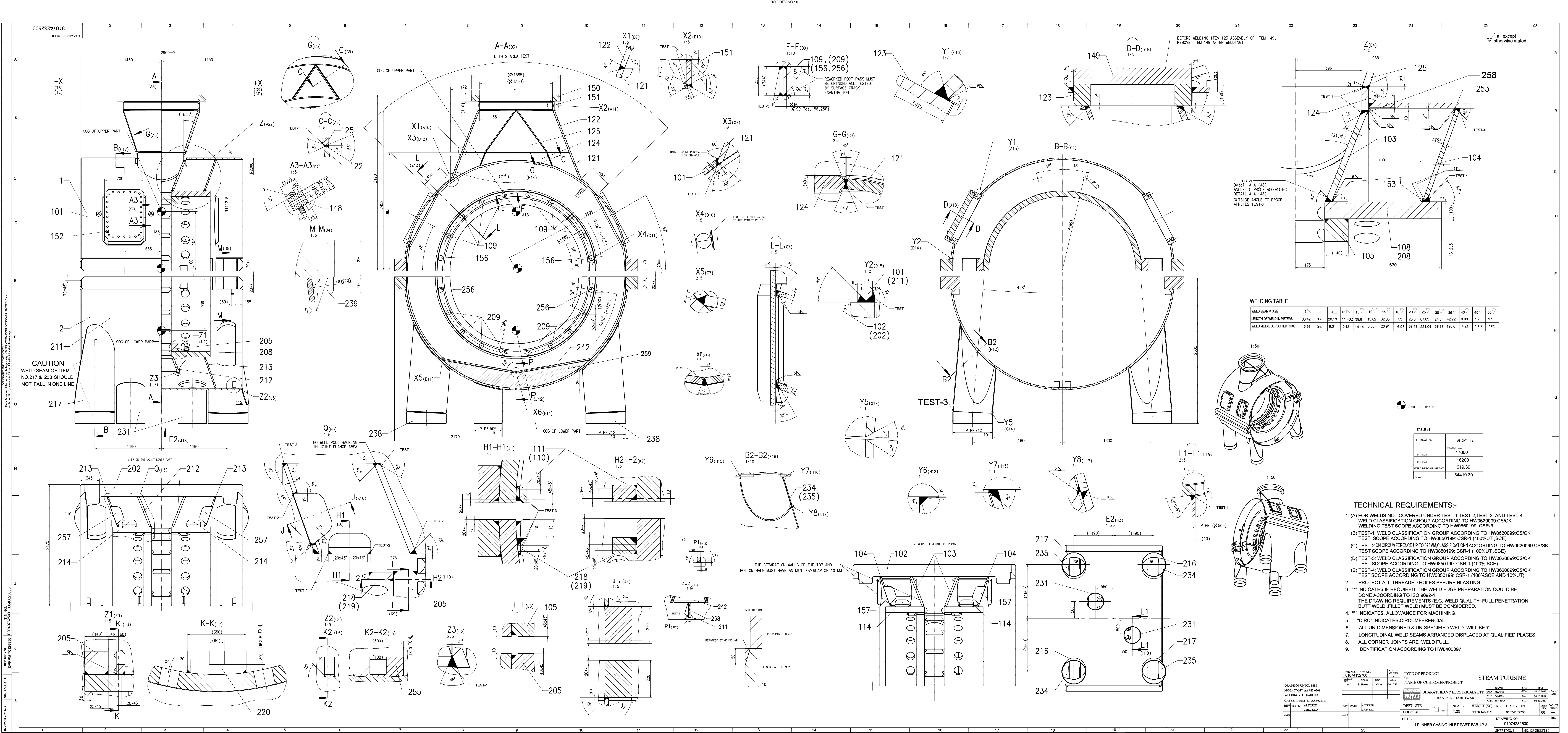
WELD BEAM & SIZE	5	8	9	15	10	12	16	18	20	25	30	36	40	45	50
LENGTH OF WELD IN METERS	60.42	0.7	26.13	11.462	30.8	13.82	32.35	7.3	25.3	87.63	24.8	42.72	0.08	1.7	1.1
WELD METAL DEPOSITED IN KG	5.58	0.18	6.31	10.12	14.14	6.06	20.91	6.93	37.48	221.04	87.87	190.6	4.21	18.8	7.88

TABLE 1

DESCRIPTION	WT (KG)
WELDING TEST	17600
WELDING TEST	16200
WELDING TEST	619.39
TOTAL	34419.39

- TECHNICAL REQUIREMENTS:-
- (A) FOR WELDS NOT COVERED UNDER TEST-1, TEST-2, TEST-3 AND TEST-4 WELD CLASSIFICATION GROUP ACCORDING TO HW0620099 CS/CK WELDING TEST SCOPE ACCORDING TO HW0850199 CSR-3
 - (B) TEST-1: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099 CS/CK TEST SCOPE ACCORDING TO HW0850199 CSR-1 (100%UT, SCE)
 - (C) TEST-2: ON CIRCUMFERENCE UP TO 625MM CLASSIFICATION ACCORDING TO HW0620099 CS/CK TEST SCOPE ACCORDING TO HW0850199 CSR-1 (100%UT, SCE)
 - (D) TEST-3: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099 CS/CK TEST SCOPE ACCORDING TO HW0850199 CSR-1 (100% SCE)
 - (E) TEST-4: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099 CS/CK TEST SCOPE ACCORDING TO HW0850199 CSR-1 (100% SCE AND 10%UT)
 - PROTECT ALL THREADED HOLES BEFORE BLASTING.
 - INDICATES IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9552-1 THE DRAWING REQUIREMENTS (E. G. WELD QUALITY, FULL PENETRATION, BUTT WELD, FILLET WELD) MUST BE CONSIDERED.
 - INDICATES ALLOWANCE FOR MACHINING.
 - "CIRC" INDICATES CIRCUMFERENCE.
 - ALL UN-DIMENSIONED & UN-SPECIFIED WELD WILL BE 7
 - LONGITUDINAL WELD SEAMS ARRANGED DISPLACED AT QUALIFIED PLACES.
 - ALL CORNER JOINTS ARE WELD FULL.
 - IDENTIFICATION ACCORDING TO HW0400397.

CONSTRUCTION NO.				STATUS				TYPE OF PRODUCT				NAME OF CUSTOMER/PROJECT				STEAM TURBINE			
REV	DATE	BY	CHKD	REV	DATE	BY	CHKD	REV	DATE	BY	CHKD	REV	DATE	BY	CHKD	REV	DATE	BY	CHKD
GRADE OF STEEL: SS 304				WELDING: TIG WELDING				WELDING: TIG WELDING				WELDING: TIG WELDING				WELDING: TIG WELDING			
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WELDING TABLE												
WELD BEAM & SIZE	5"	6"	8"	10"	12"	15"	18"	20"	25"	30"	36"	45"
LENGTH OF WELD IN METERS	60.42	0.7	20.13	11.402	39.8	13.82	32.36	7.3	25.3	87.63	24.8	42.72
WELD METAL DEPOSITED IN KG	5.93	0.18	8.31	10.12	14.14	5.06	20.91	6.93	37.48	87.87	190.8	4.21

TABLE-1		WEIGHT (KG)
DESCRIPTION	WEIGHT (KG)	17600
PIPE WEIGHT	16200	619.39
WELD DEPOSIT WEIGHT	34419.39	

TECHNICAL REQUIREMENTS:-

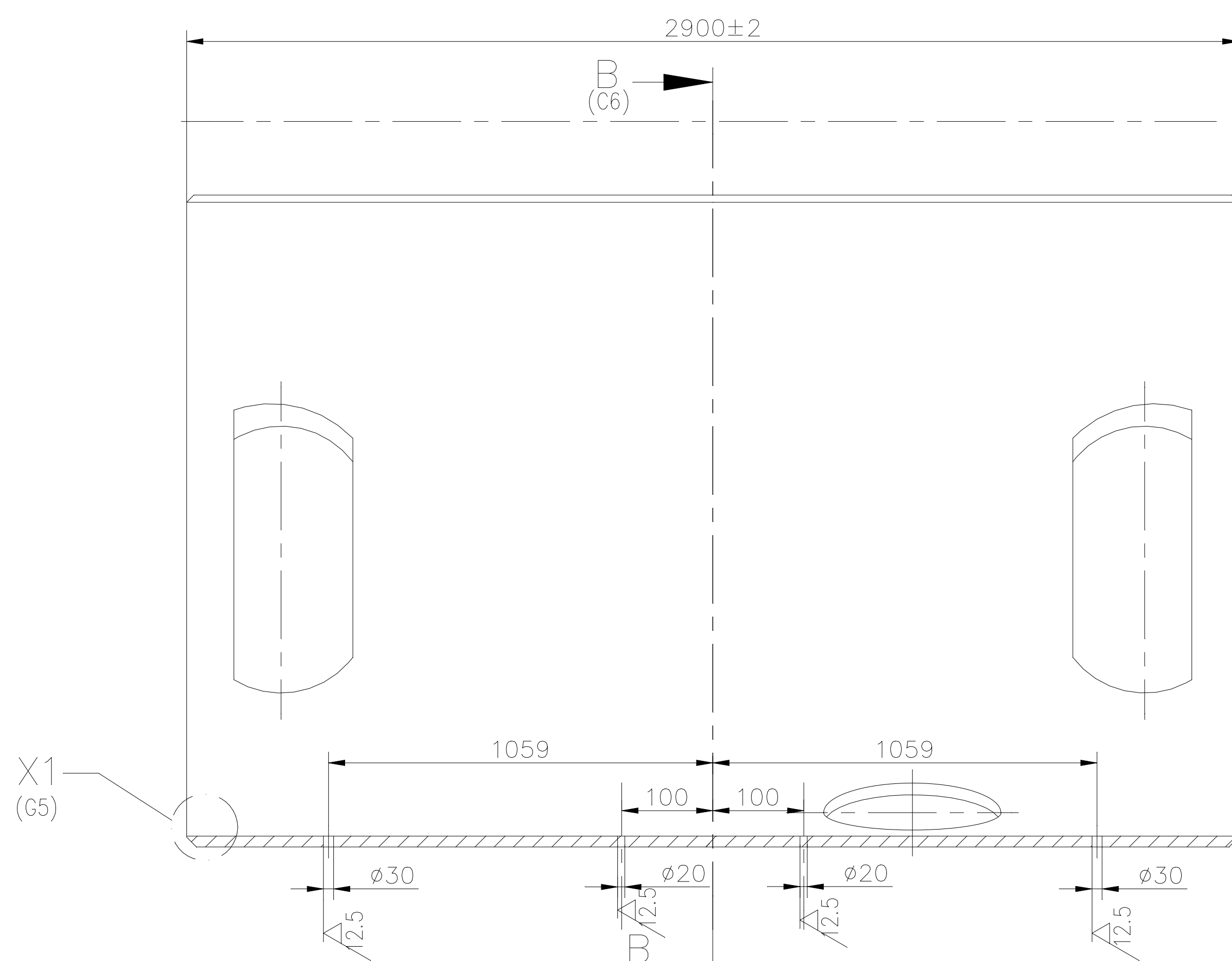
- (A) FOR WELDS NOT COVERED UNDER TEST-1, TEST-2, TEST-3 AND TEST-4 WELD CLASSIFICATION GROUP ACCORDING TO HW0620099/CS/CK WELDING TEST SCOPE ACCORDING TO HW0850199/CSR-3
- (B) TEST-1: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099/CS/CK TEST SCOPE ACCORDING TO HW0850199/CSR-1 (100%UT, SCE)
- (C) TEST-2 ON CIRCUMFERENCE UP TO 82MM CLASSIFICATION ACCORDING TO HW0620099/CS/CK TEST SCOPE ACCORDING TO HW0850199/CSR-1 (100%UT, SCE)
- (D) TEST-3: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099/CS/CK TEST SCOPE ACCORDING TO HW0850199/CSR-1 (100%UT, SCE)
- (E) TEST-4: WELD CLASSIFICATION GROUP ACCORDING TO HW0620099/CS/CK TEST SCOPE ACCORDING TO HW0850199/CSR-1 (100%UT, SCE)
- PROTECT ALL THREADED HOLES BEFORE BLASTING
- INDICATES IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9892-1
- THE DRAWING REQUIREMENTS (E.G. WELD QUALITY, FULL PENETRATION, BUTT WELD, FILLET WELD) MUST BE CONSIDERED.
- INDICATES ALLOWANCE FOR MACHINING.
- "CIRC" INDICATES CIRCUMFERENCE.
- ALL UN-DIMENSIONED & UN-SPECIFIED WELD WILL BE 7
- LONGITUDINAL WELD BEAMS ARRANGED DISPLACED AT QUALIFIED PLACES.
- ALL CORNER JOINTS ARE WELD FULL
- IDENTIFICATION ACCORDING TO HW0400397.

GENERAL INFORMATION				TYPE OF PRODUCT				STEAM TURBINE			
DESIGN NO.	REV.	DATE	BY	NAME	DATE	BY	NAME	DATE	BY	NAME	DATE
009262P/016	1	2010/01/01	...	...	...	...	...	...	...	...	...
WELDING TABLE				WELDING TABLE				WELDING TABLE			
REV.	DATE	BY	NAME	REV.	DATE	BY	NAME	REV.	DATE	BY	NAME
1	2010/01/01	...	...	1	2010/01/01	...	...	1	2010/01/01	...	...
TITLE				TITLE				TITLE			
LP INNER CASING INLET PART-FAB LP-2				LP INNER CASING INLET PART-FAB LP-2				LP INNER CASING INLET PART-FAB LP-2			
SHEET NO. 1				SHEET NO. 1				SHEET NO. 1			

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N. AND DATE	REF. DRG. NO. DPPPG-70129028	TIN NO.
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ORG. NO. 1-10742-32211



BHARAT HEAVY ELECTRICALS LIMITED.
TOTAL TO THE INTEREST OF THE COMPANY

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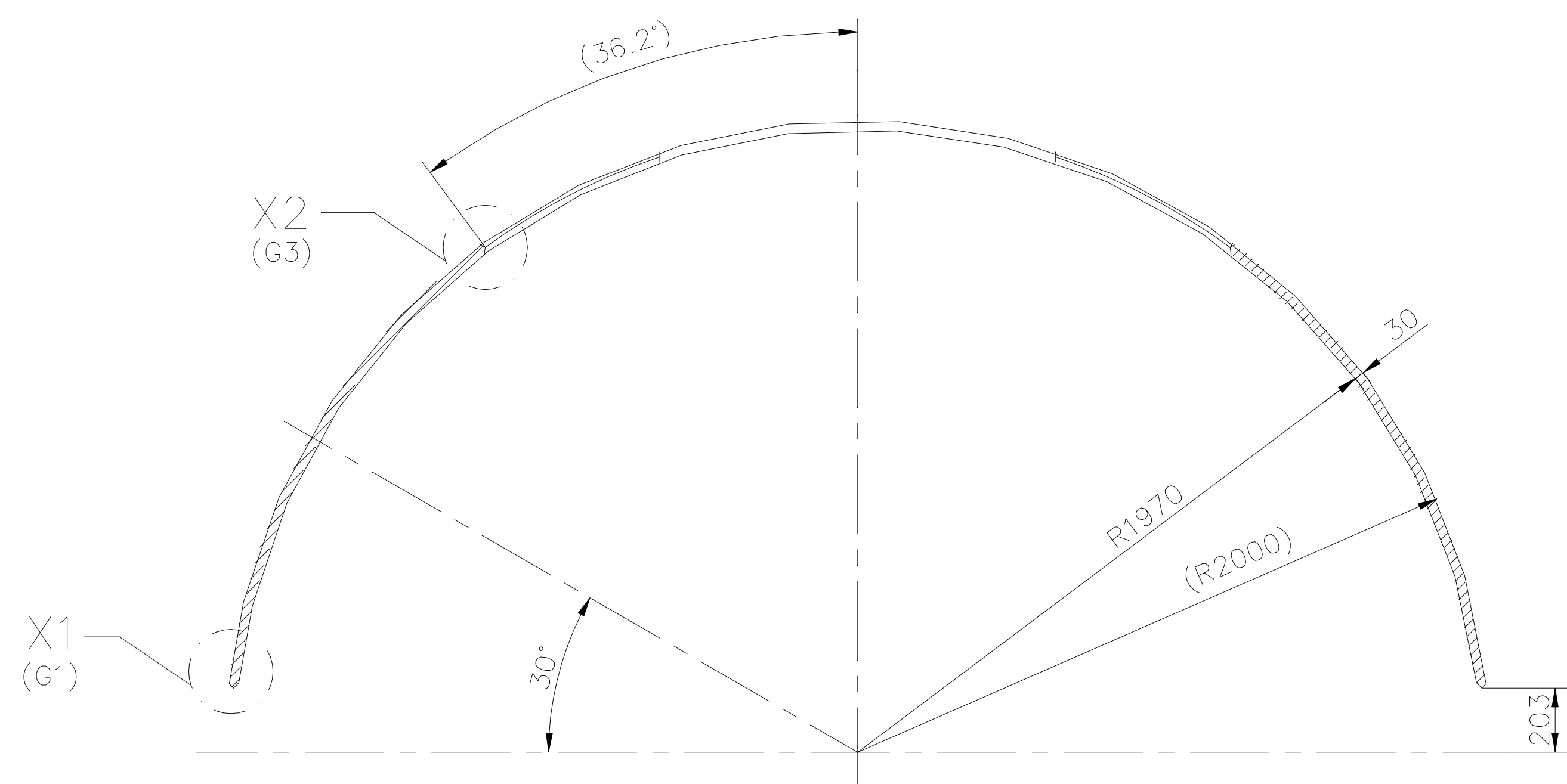
SK046L645

DRG. NO.	DSPPG-0127017
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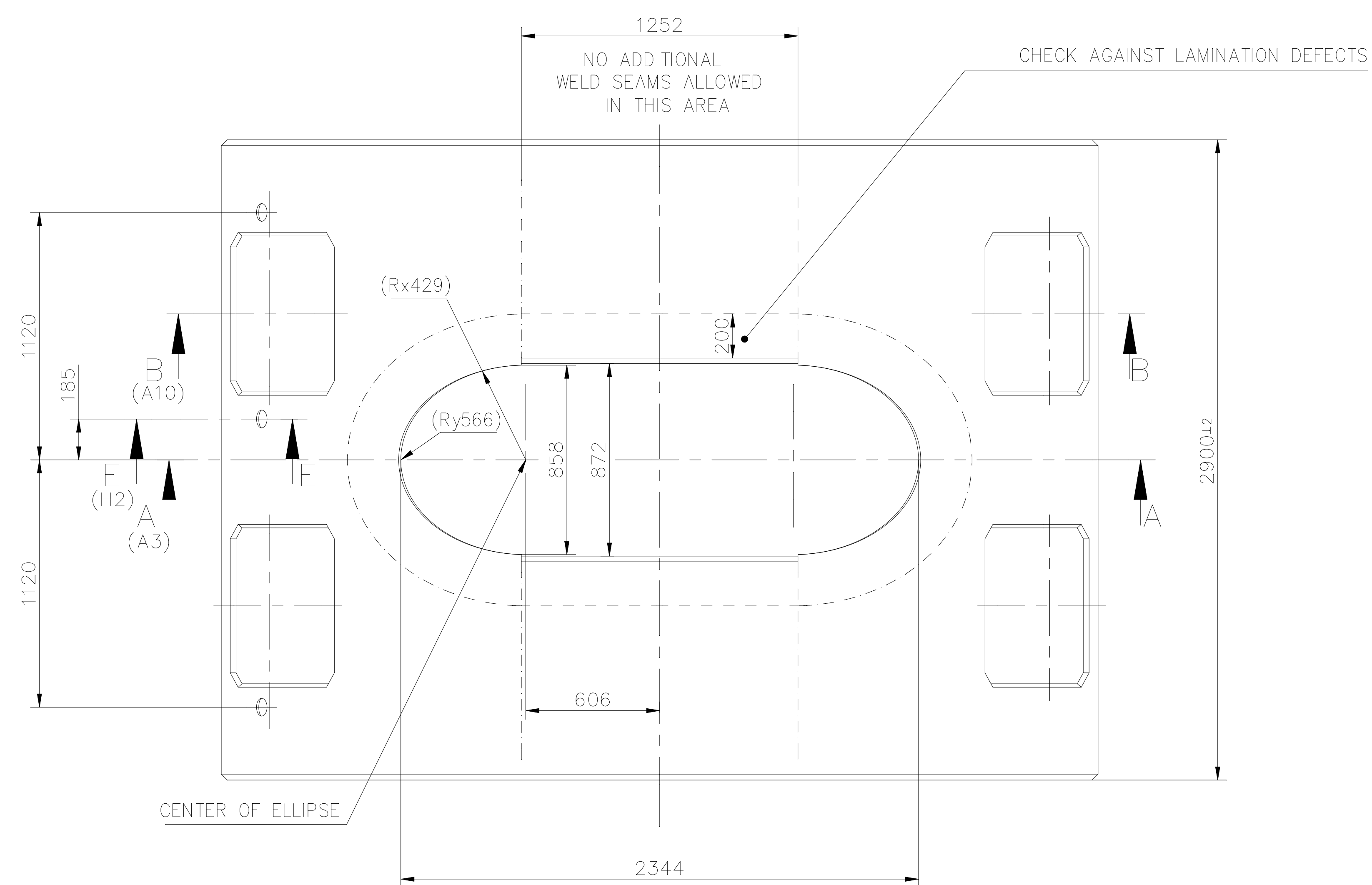
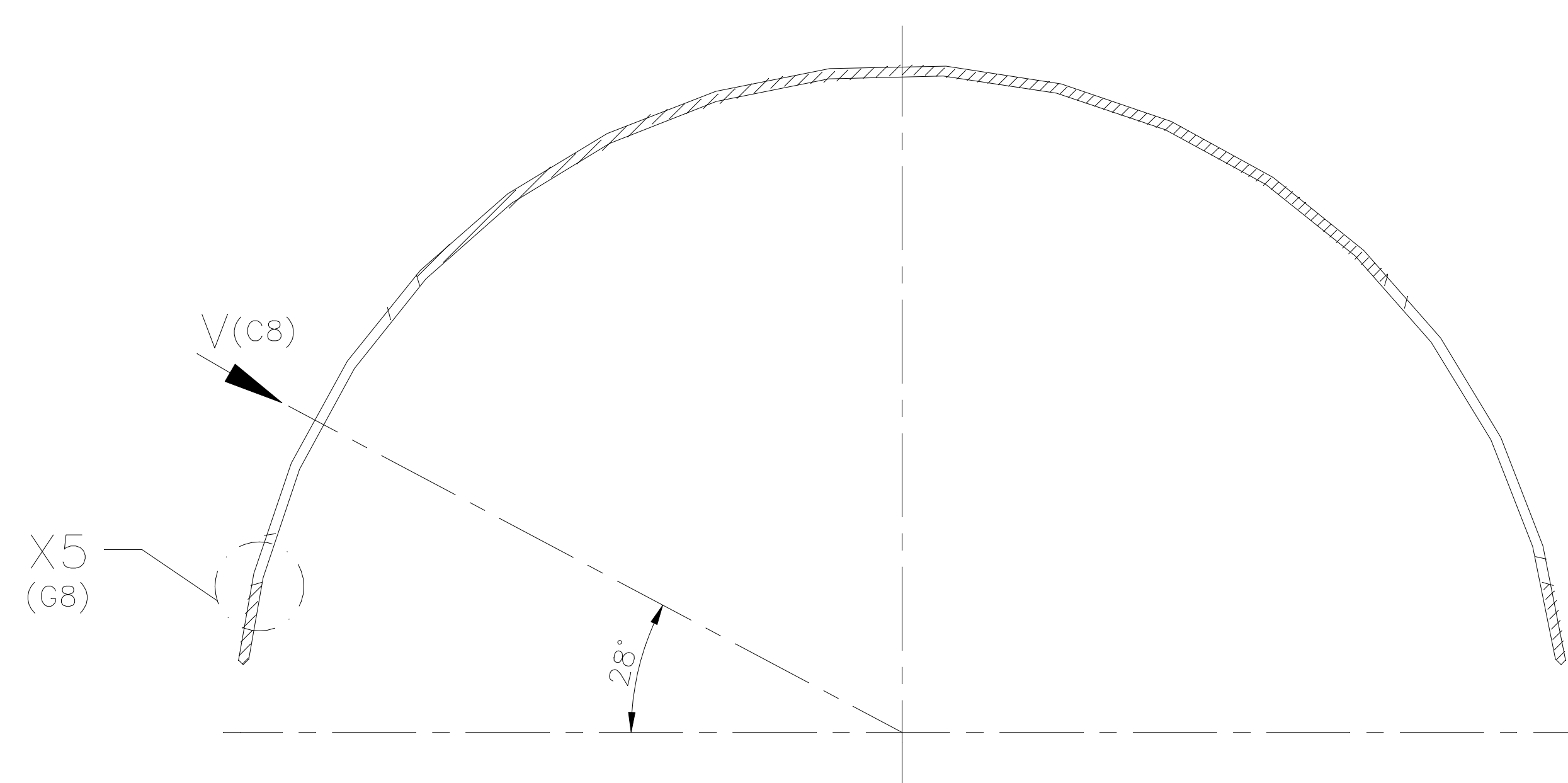
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INVENTORY NO

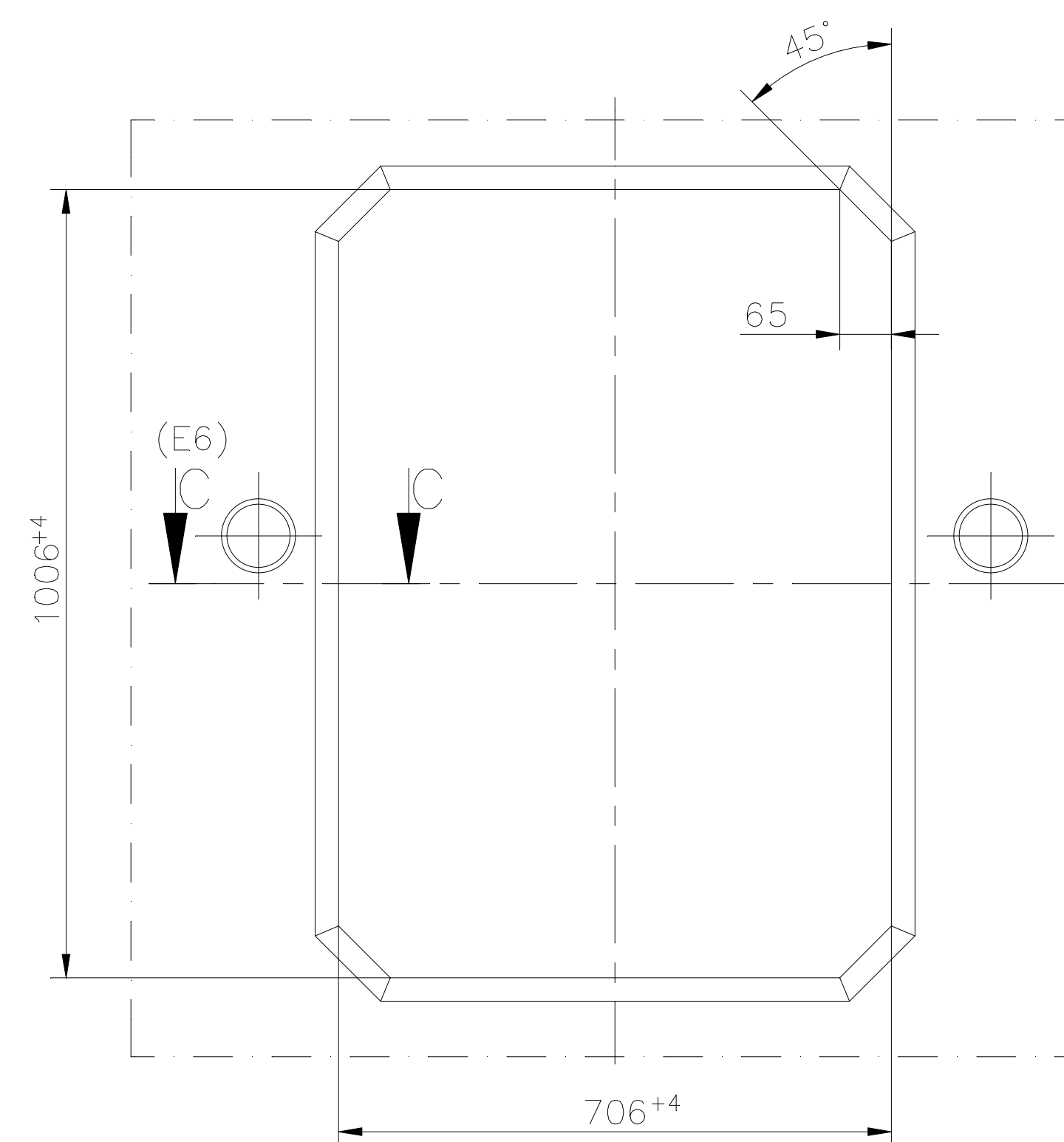
SECTION AA (E1)



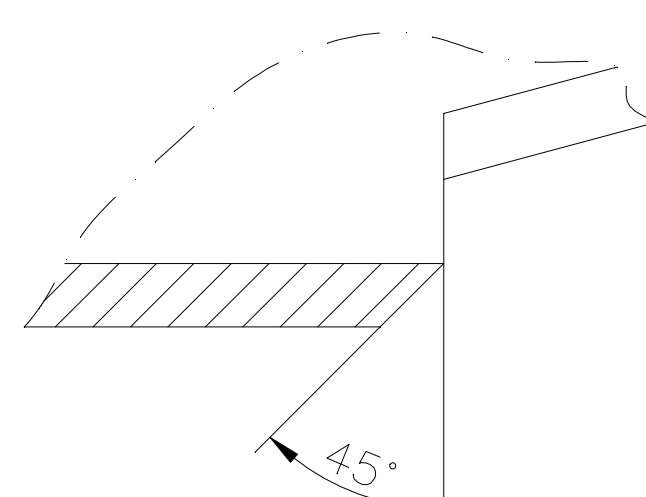
SECTION BB (D1)



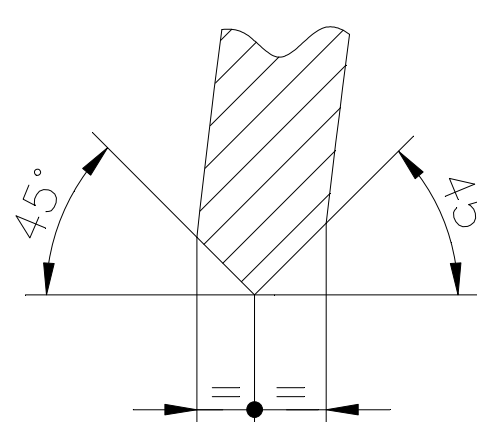
VIEW V (B9)
SCALE 1:10



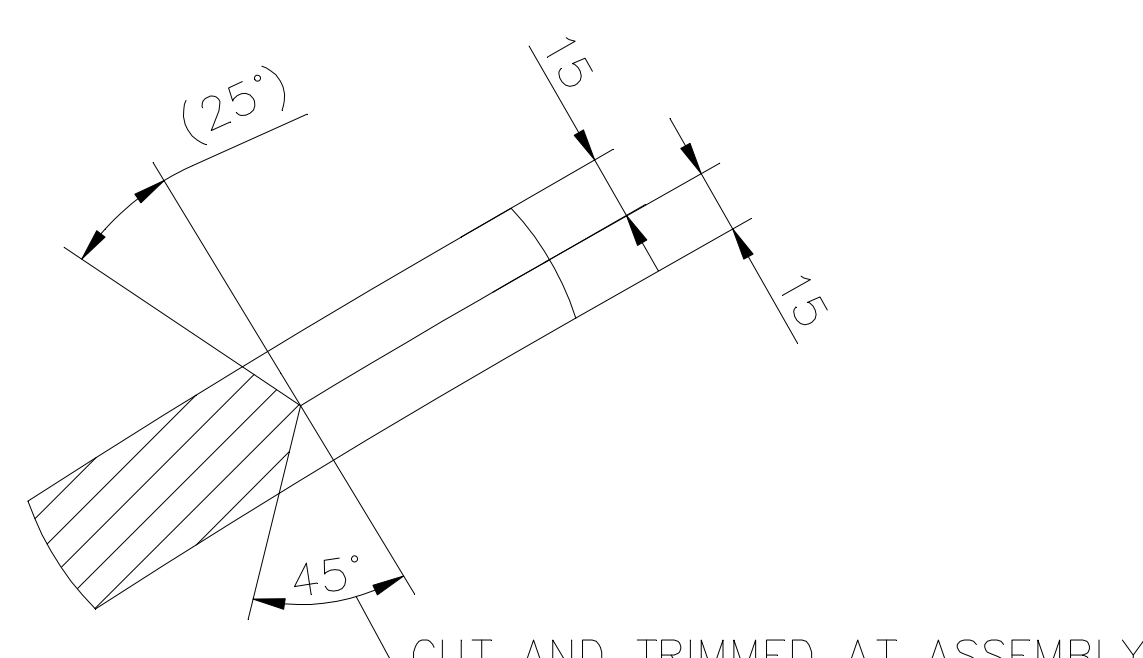
SECTION CC (D7)
SCALE 1.5



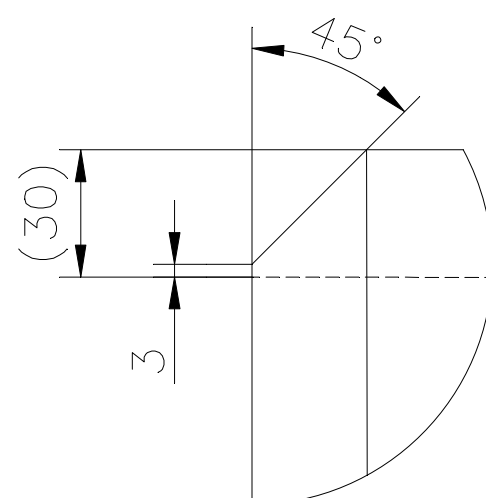
DETAIL X1 (B1)
SCALE 1.2.5



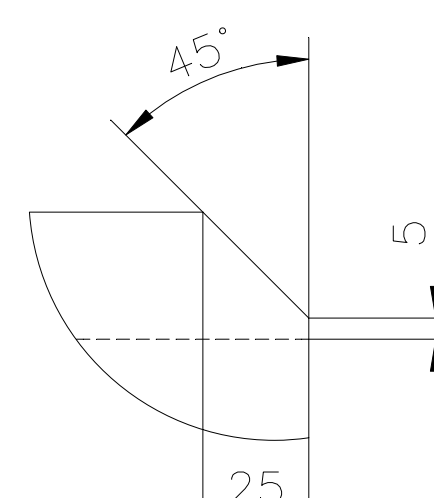
DETAIL X2 (A2)
SCALE 1.2.5



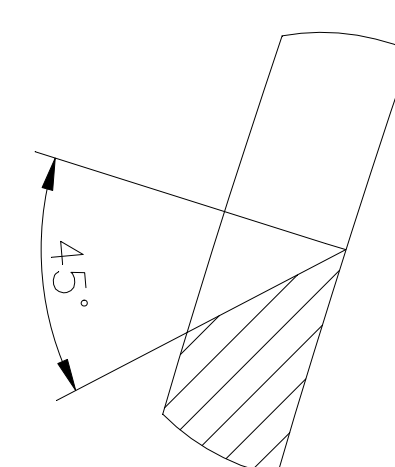
DETAIL X3 (A5)
SCALE 1.2.5



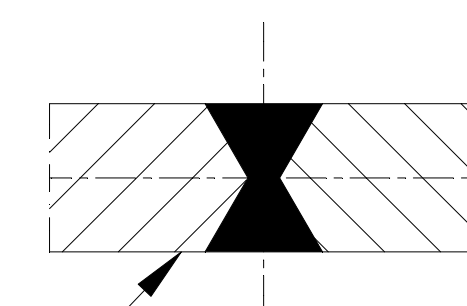
DETAIL X4 (A6)
SCALE 1.2.5



DETAIL X5 (B8)
SCALE 1.2.5

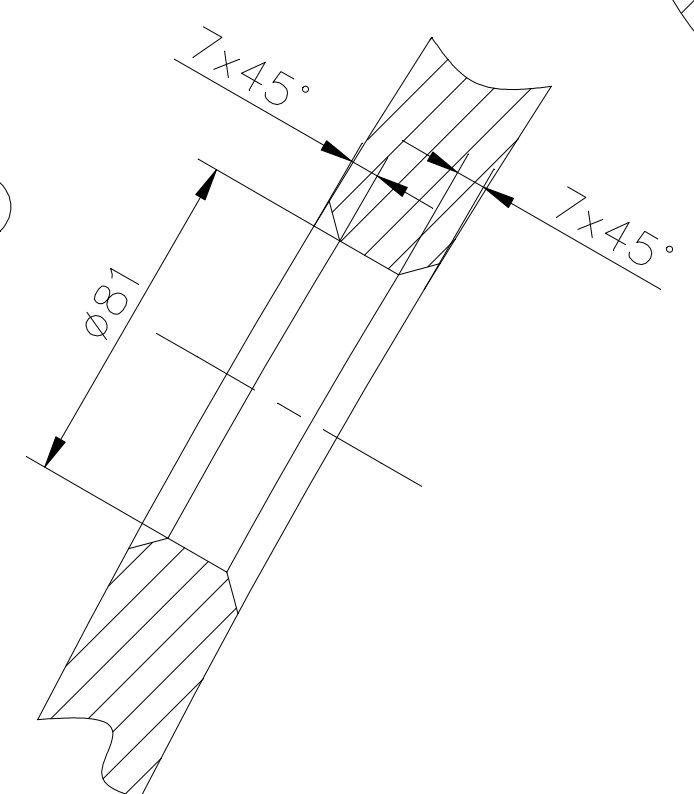


DIVIDED IN PARTS IF REQUIRED, ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELDS, PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.



DETAIL: FULL PENETRATION WELD
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

SECTION E-E (E1)
SCALE 1:5



→ DEPENDING ON SEMI-FINISHED PARTS THE NUMBER OF LONGITUDINAL WELD SEAMS SHALL BE MINIMIZED.

→ IN ACCORDANCE TO MAIN DRAWING OF DESIGN GROUP INTERSECTION OF WELD SEAMS SHALL BE AVOIDED.

GRADE OF UNTOL.DIM			
M/CG.-C/M/F AA0230208			
WELDING-A/B/C/D // AA0621104			
GAS CUTTING-T3'AA0621101			
REV	DATE	ALTERED	ANOPP
02	05.02.15	CHECKED	DINESH
1. IN SHEET NO.1 NO CHANGE.			
AS PER C/A.NO. STE-15-F0042.			

-GMS No./ C.B.O.M.- NO. 9-10742-SB000			STATUS OF PRG	
AEGREED DATE	NAME	SIGN	DATE	
WT	H. VERMA	SD/-	28.07.12	
REV OI	DATE 6.03.13	ALTERED CHECKED	MONIKA DINESH	
SH2 Ø 80 & DIM. 2079 GIVEN.				
AS PER C/A.NO. STE-13-F0139.				

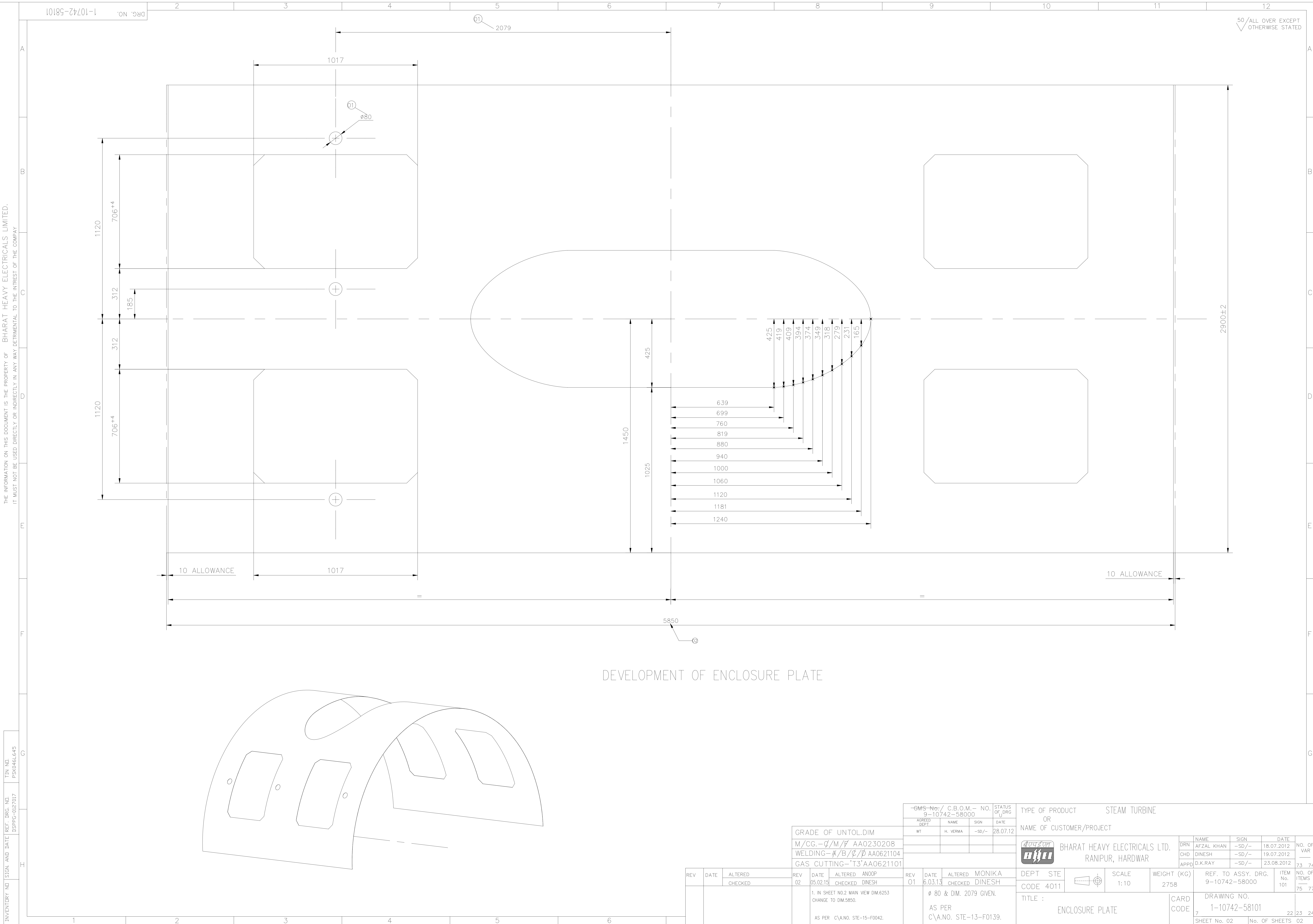
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE					
 BARHAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		NAME	SIGN	DATE	NO. OF VAR		
		DRN	POOMAN	SD/-	18.07.2012		
		CHD	DINESH	SD/-	19.07.2012		
		APPD	D.K.RAY	SD/-	23.08.2012	73 74	
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	
CODE	4011		1:20	2758.00	9-10742-58000	101	
TITLE :				CARD CODE	DRAWING NO.	NO. OF ITEMS	
ENCLOSURE PLATE					1-10742-58101	75 77	
					SHEET No. 01	NO. OF SHEETS. 02	
						22.23 24	

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TIN NO.
PSK046L645

REF. DRG. NO.
DSPPG-0127017

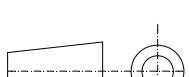
INVENTORY NO
SIGN. AND DATE



GRADE OF UNTOL.DIM		
M/CG.-G/M/F	AA0230208	
WELDING-A/B/C/D	AA0621104	
GAS CUTTING-T3	AA0621101	

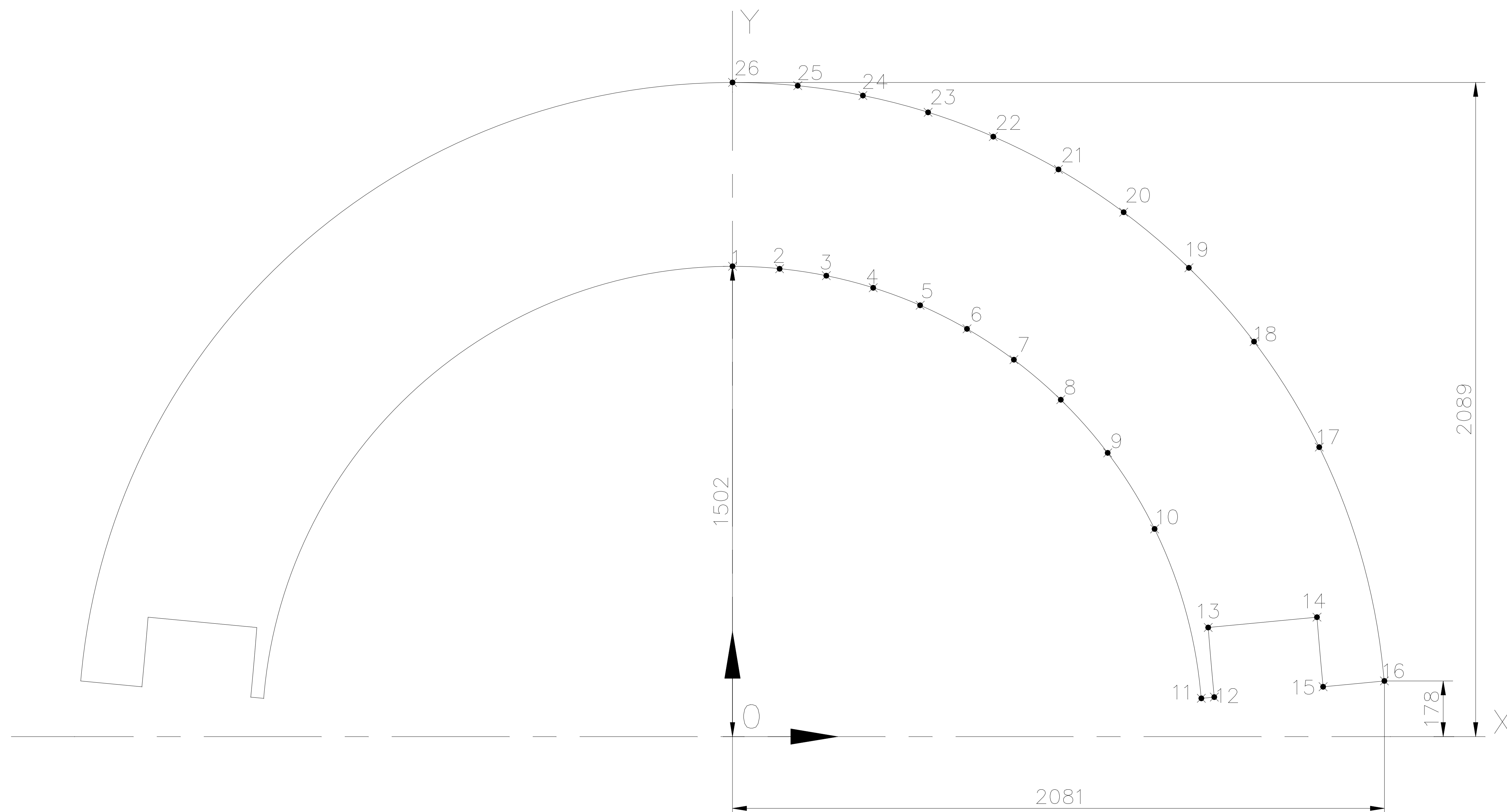
REV	DATE	ALTERED	CHECKED
02	05.02.15	CHECKED	DINESH
1. IN SHEET NO.2 MAIN VIEW DIM.6253 CHANGE TO DIM.5850.			
AS PER C\A.NO. STE-15-F0042.			

-GMS No./ C.B.O.M.- NO.		STATUS OF DRG	
9-10742-58000			
APPROD	NAME	SIGN	DATE
WT	H. VERMA	-SD/-	28.07.12

TYPE OF PRODUCT			STEAM TURBINE				
OR							
NAME OF CUSTOMER/PROJECT							
BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN	NAME	SIGN	DATE	NO. OF VAR
				AFZAL KHAN	-SD/-	18.07.2012	
			CHD	DINESH	-SD/-	19.07.2012	
			APPD	D.K.RAY	-SD/-	23.08.2012	73
							74
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011		1:10	2758	9-10742-58000	101	75
TITLE :				CARD CODE	DRAWING NO. 1-10742-58101		22
ENCLOSURE PLATE				7			23
				SHEET No. 02		No. OF SHEETS	02

DRAWING NO. 2-10742-58104

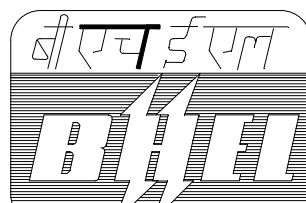
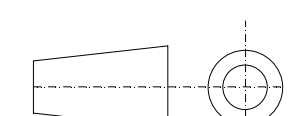
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SL. NO.	CO – ORDINATES	
	X	Y
0	0	0
1	0	1502
2	151	1494
3	299	1471
4	449	1433
5	599	1377
6	749	1302
7	898	1203
8	1048	1075
9	1198	906
10	1347	663
11	1497	122
12	1538	126
13	1518	348
14	1866	381
15	1885	159
16	2081	178
17	1873	924
18	1665	1261
19	1457	1497
20	1249	1674
21	1040	1811
22	832	1915
23	624	1993
24	416	2047
25	208	2078
26	0	2089

Inventory No. PSK046L652	Sign & Date	Ref. Drawing No. DSPPG-0127020	TIN NO. PSK046L652
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				-GMS No./ CBOM No. No. 9-10742-58000		STATUS OF DRG U	
GRADE OF UNTOL.DIM				AGREED	DEPT	NAME	SIGN
M/CG.-C/M/F AA0230208							
WELDING-A/B/C/D / / AA0621104							
GAS CUTTING-T3\AA0621101							
REV 02	DATE 27.01.15	ALTERED CHECKED	ANOOP DINESH	REV 01	DATE 25.05.13	ALTERED CHECKED	MONIKA DINESH
NO CHANGE.				DATE & NO. OF SHEET UPDATED INSERT NEW SHEET.			
AS PER C\A NO. STE-15-F0028.				AS PER C\A NO. STE-13-F0205.			
				5		6	

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			STEAM TURBINE					
 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN	NAME	SIGN	DATE	NO. OF VAR	
			CHD	AFZAL KHAN	SD/-	02.03.2013		
				DINESH	SD/-	04.03.2013		
			APPD	D.K.RAY	SD/-	05.03.2013		
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	NO. OF ITEMS
CODE	4011		1:15		9-10742-58000		104	
TITLE :				CARD CODE	DRAWING NO.			
HALF CONE				7	2-10742-58104			22 23 24
				SHEET No. 02		No. OF SHEETS 02		

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Rel. Drawing No.>

GRADE OF UNTOL. DIM
M/CG.— AA0230208 m
WELDING—CLASS 'B' OF AA0621104
GAS CUTTING—TABLE 3 OF AA0621101

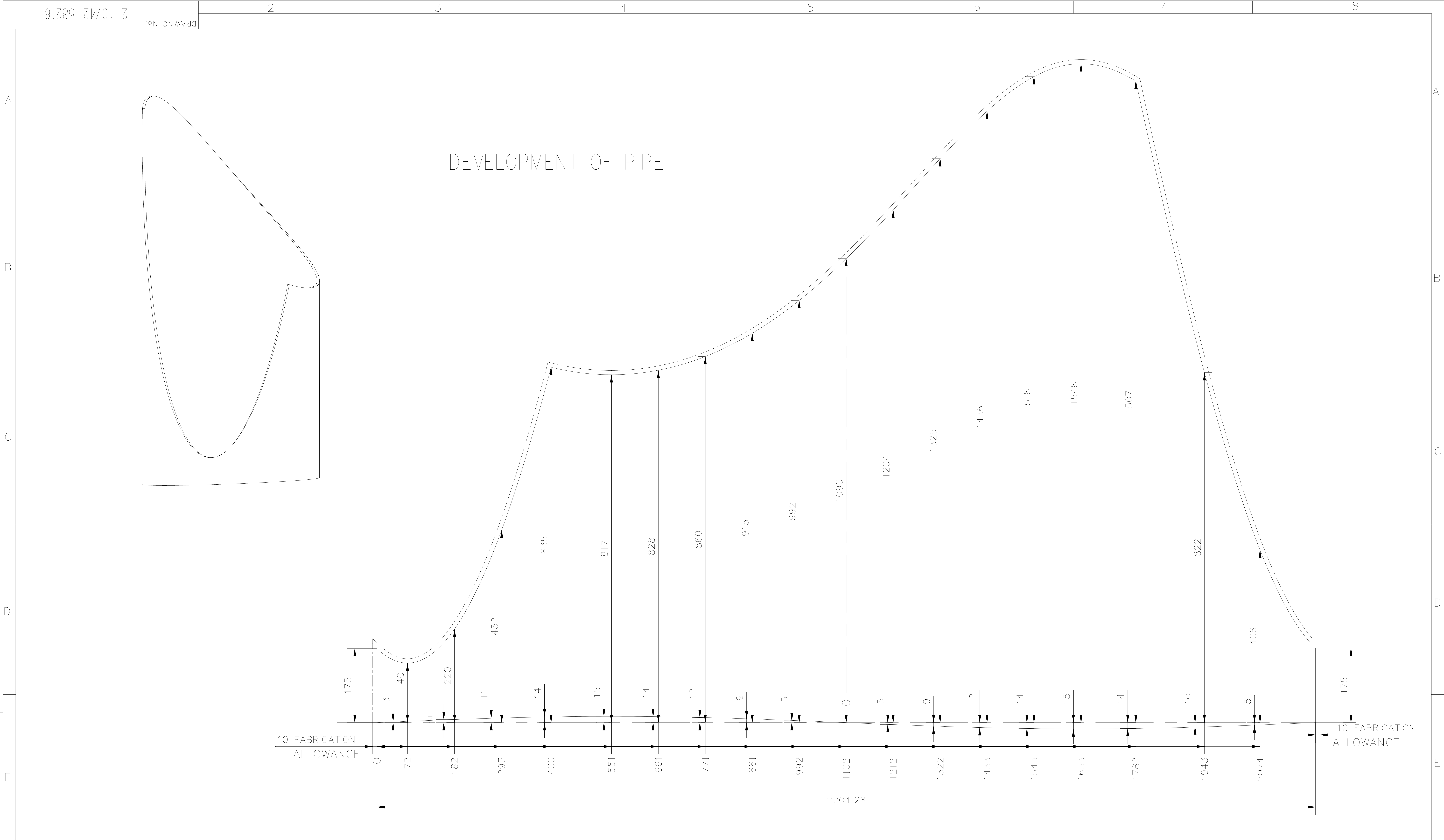
AGREED DEPT	NAME	SIGN	DATE



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Inventory No.	Sign & Date	Ref. Drawing No. DSPPG-0127034	TIN NO. PSK046L675



GRADE OF UNTOL.DIM
M/CG.-Ø/M/Ø AA0230208
WELDING-Ø/B/Ø/Ø AA0621104
GAS CUTTING-'T3'AA0621101

GMS No./ CBOM No. 9-10742-58000				STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE	
WT	H.VERMA	-SD/-	28.07.12	
REV 01	DATE 18.05.13	ALTERED CHECKED	MONIKA DINESH	

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				STEAM TURBINE				
BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				NAME	SIGN	DATE	NO. OF VAR — 73 74	
				DRN	AFZAL KHAN	-SD/-		18.07.2012
				CHD	DINESH	-SD/-		19.07.2012
				APPD	D.K.RAY	-SD/-	28.07.2012	
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM	NO. OF ITEMS 75 77
CODE	4011		1:6	156	9-10742-58000		No. 216	
TITLE :				PIPE		CARD CODE	DRAWING NO. 2-10742-58216	
						SHEET No. 02		No. OF SHEETS 02

DATE UPDATED.
THIS DRG. SUPERSEDED THE OLD DRG. UNDER THE SAME NO.
AS PER C\A NO. STE-13-F0201.

[illegible]

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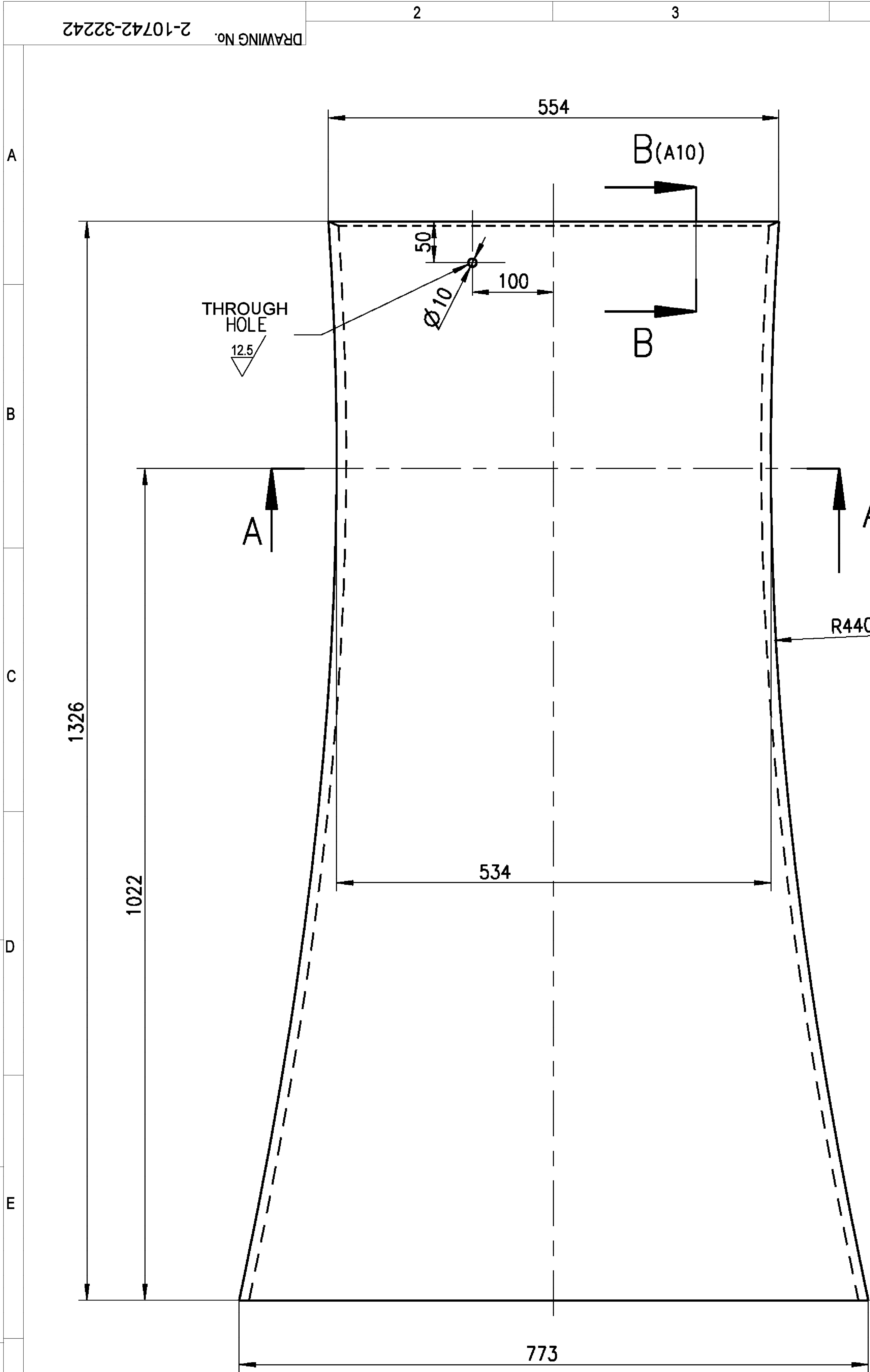
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2-10742-58217

DRAWING No.

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Inventory No.	Sign & Date	Ref. Drawing No. DPPPG70129030	TIN NO.

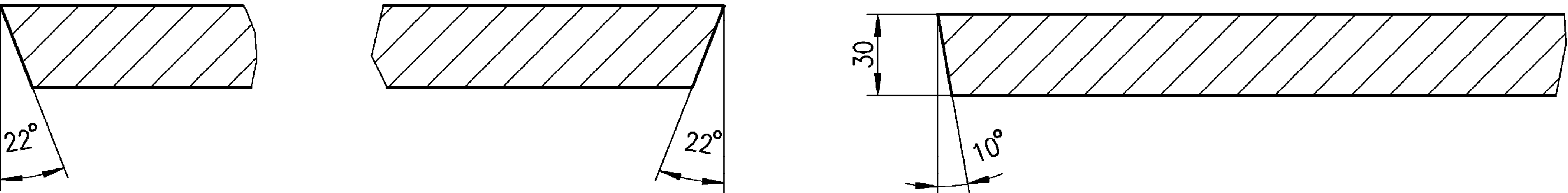


GRADE OF UNTOL.DIM
M/CG.-C/M/F AA0230208
WELDING-A/B/C/D / / AA0621104
GAS CUTTING-T3'AA0621101

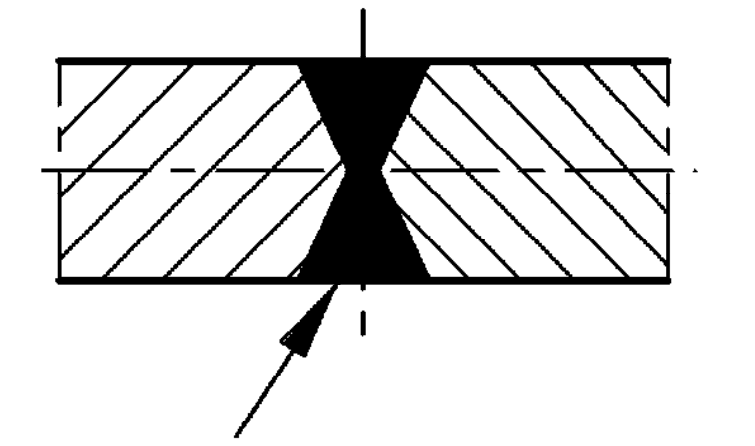
REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
1				2				3				4			

GMS No./ CBOM No.			STATUS OF DRG
AGREED DEPT	NAME	SIGN	DATE
WT	S. Thakur	-SD/-	05.01.17
REV	DATE	ALTERED	
		CHECKED	
5			6

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE				
BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE	NO. OF VAR
RANIPUR, HARDWAR		CHD	MONIKA	-SD/-	05.01.17	
		APPD	D.K.RAY	-SD/-	05.01.17	
DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEMS
CODE	4011	1:5	183	9-10742-32000	242	75 77
TITLE : PLATE			CARD CODE	DRAWING NO. 2-10742-32242		22 23 24
			SHEET No. 1		No. OF SHEETS 1	



DIVIDED IN PARTS IF REQUIRED.
ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER /SHOP.
DEFINITION : FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

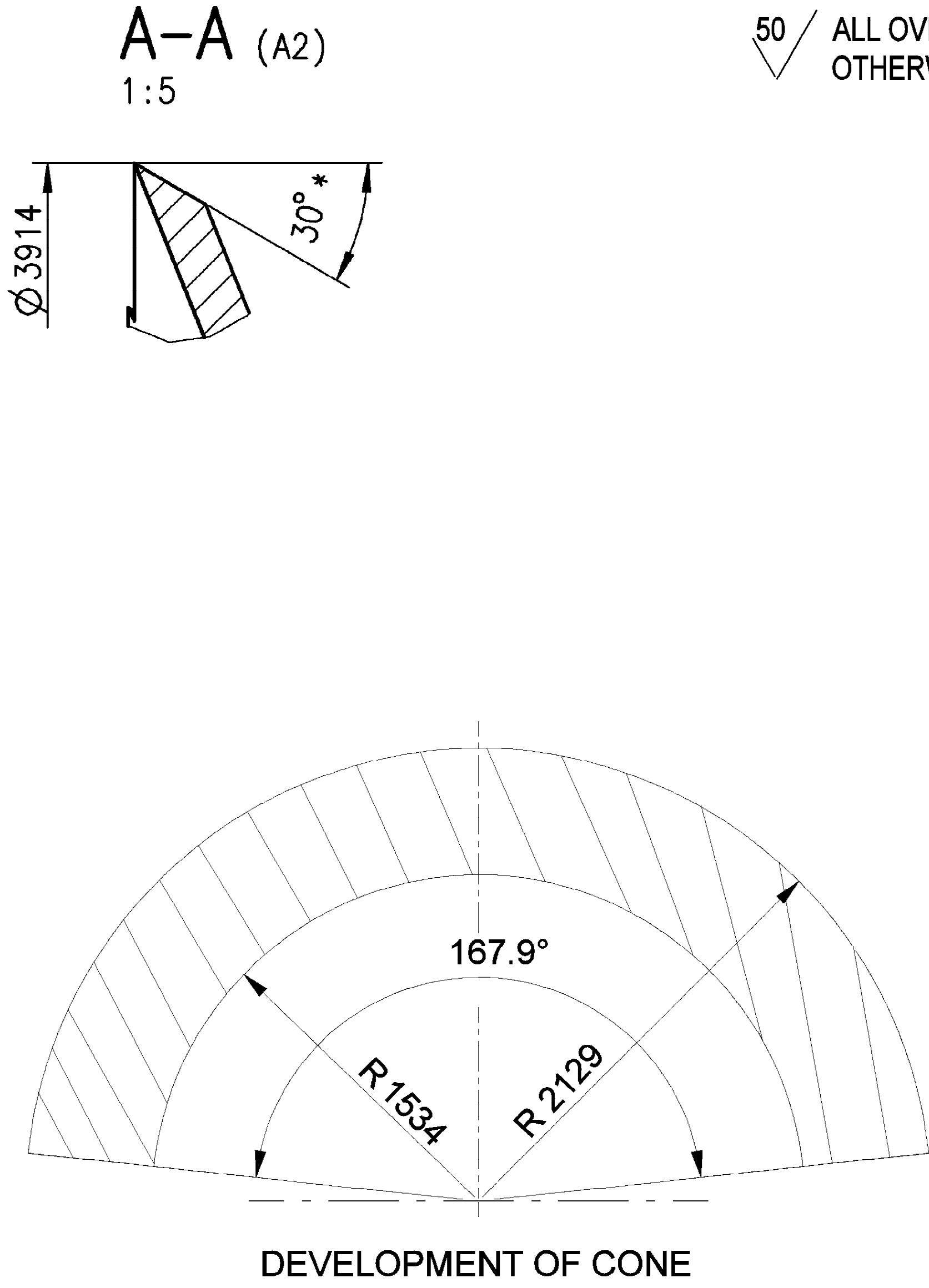
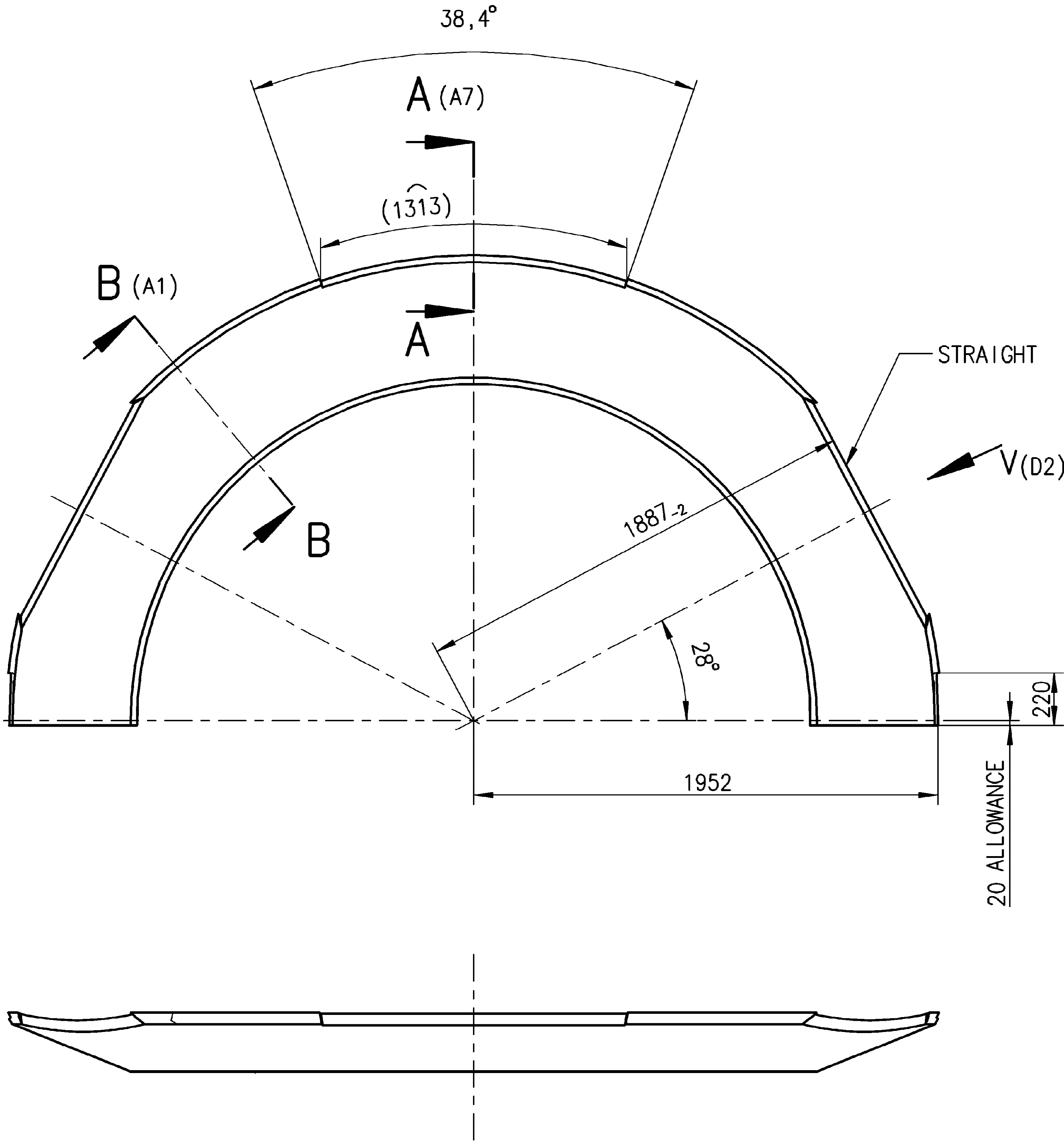
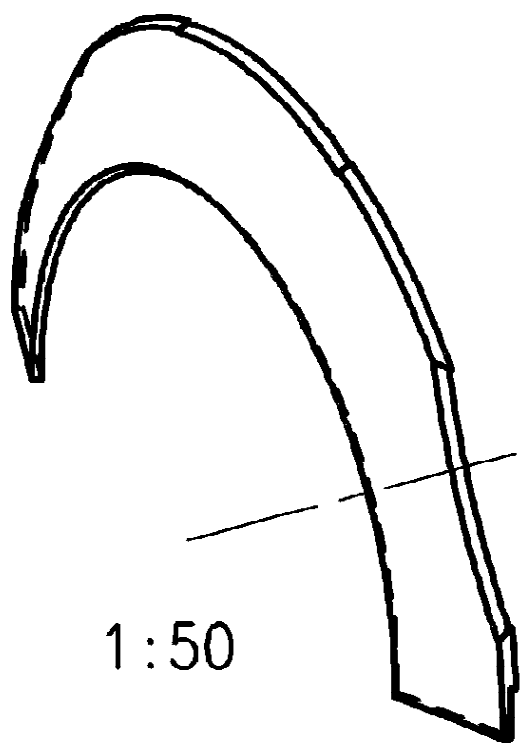
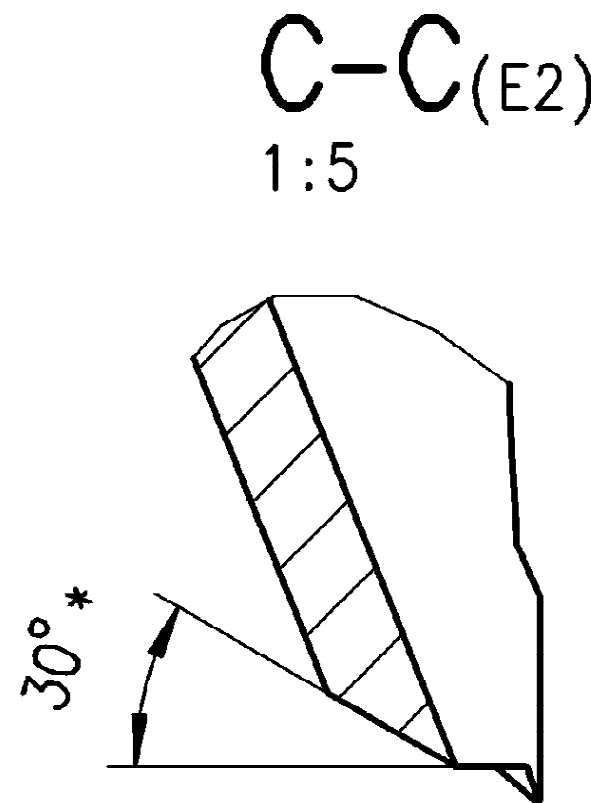
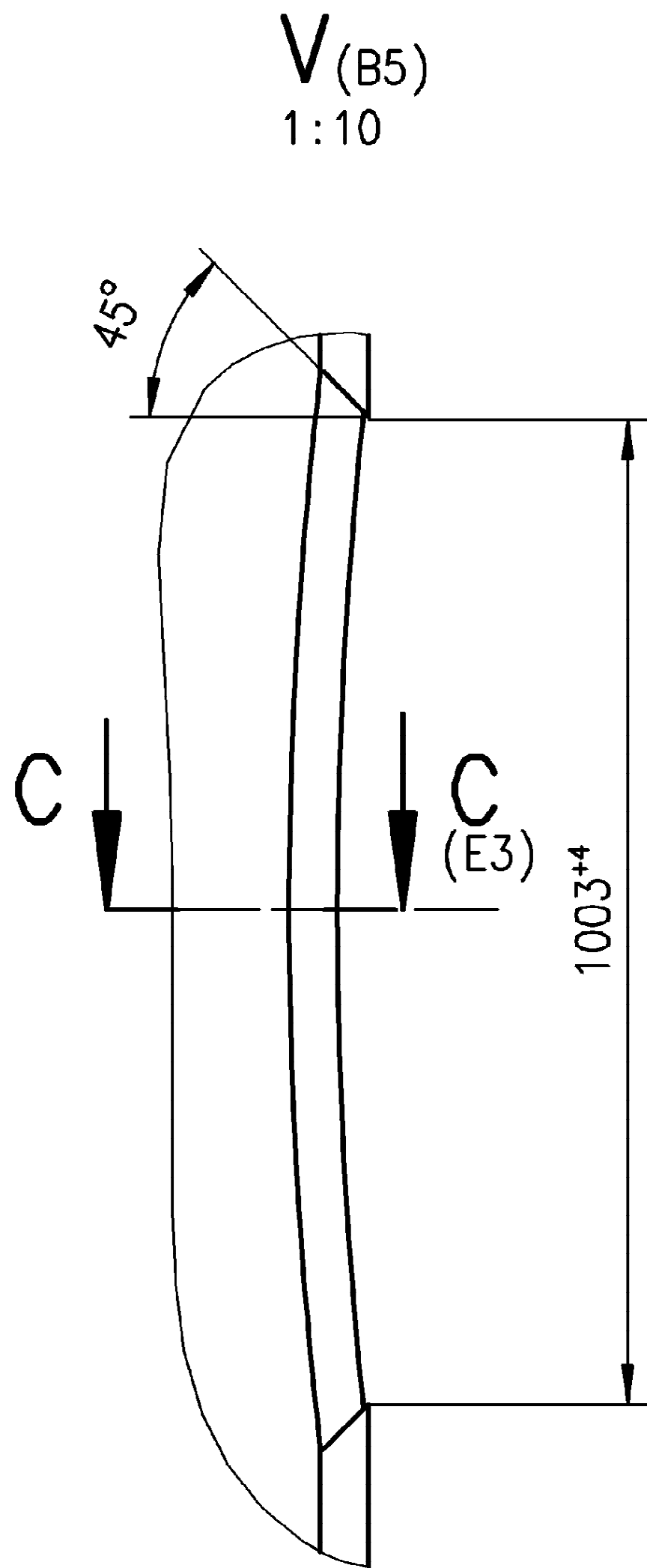
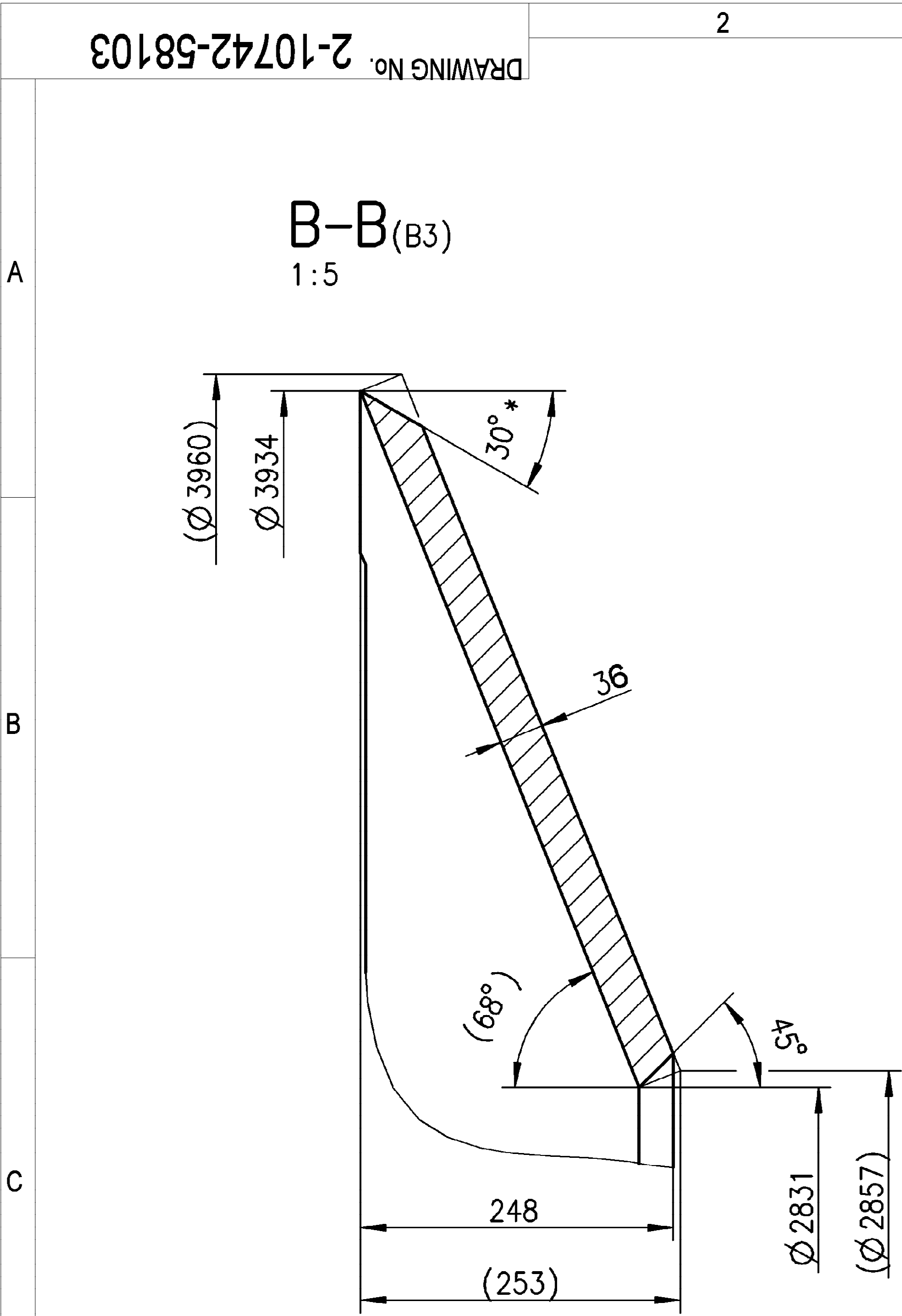
TECHNICAL REQUIREMENT:-

1. WELD CLASSIFICATION GROUP ACC. TO HW0620099: BS/BK
2. WELDING TEST SCOPE ACC. TO HW0850199. CSR-1.
3. IDENTIFICATION ACCORDING TO HW 0400397.

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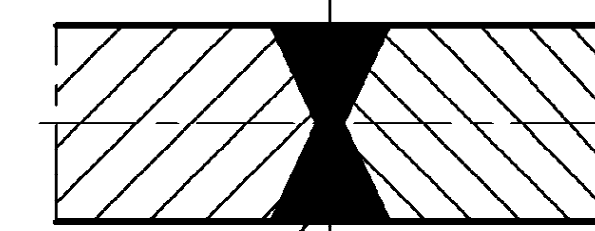
Inventory No.
Sign & Date
Ref Drawing No> DSPPG-0127019
TIN NO. PSK0461651

REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
1				2				3				4			



DIVIDED IN PARTS IF REQUIRED, ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELDS, PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

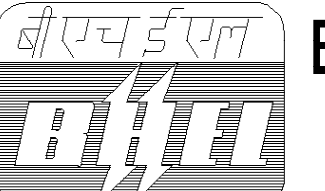
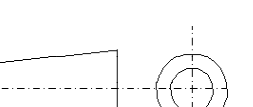
DEFINITION : FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

TECH.REQUIREMENTS

- IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9692-1. THE DRAWING REQUIREMENT (E.G WELD QUALITY, FULL PENETRATION, BUTT WELD FILLET WELD) MUST BE CONSIDERED.
- WELD CLASSIFICATION GROUP ACC. TO HW0620099:BS/BK
- WELDING TEST SCOPE ACC. TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW 0400397.

GMS No./ CBOM No. 9-10742-58000				STATUS OF DRG		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
AGREED DEPT		NAME	SIGN	DATE		 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR							
WT		H. VERMA	SD/-	28.07.12									
						DRN	NAME POONAM	SIGN SD/-	DATE 29.11.2011	NO. OF VAR			
						CHD	DINESH	SD/-	01.12.2011				
						APPD	D.K.RAY	SD/-					
REV 01	DATE 25.05.13	ALTERED MONIKA CHECKED DINESH				DEPT	STE		SCALE 1:20	WEIGHT (KG) 790	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 103	NO. OF ITEMS 75
		DATE & NO. OF SHEET UPDATED. INSERT NEW SHEET. AS PER C/A NO. STE-13-F0 205 .				TITLE : HALF CONE				CARD CODE	DRAWING NO. 2-10742-58103		22 23 24
											7	SHEET No 1	No. OF SHEETS 2
5													
		6											

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Inventory No.
Sign & Date
Ref. Drawing No>
TIN NO.

DRAWING No. 2-10742-58121

2

3

4

5

6

7

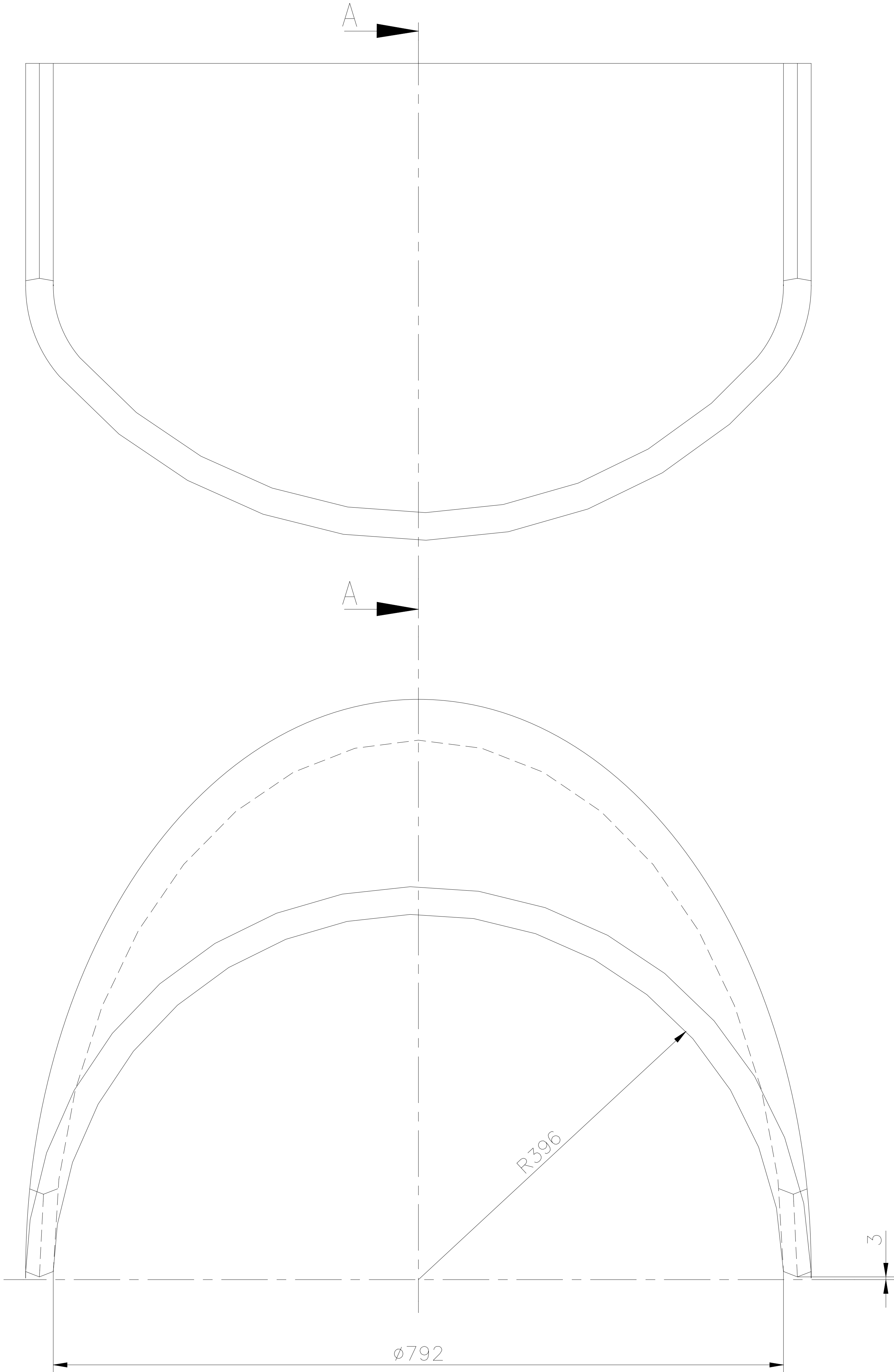
8

FIRST ANGLE PROJECTION

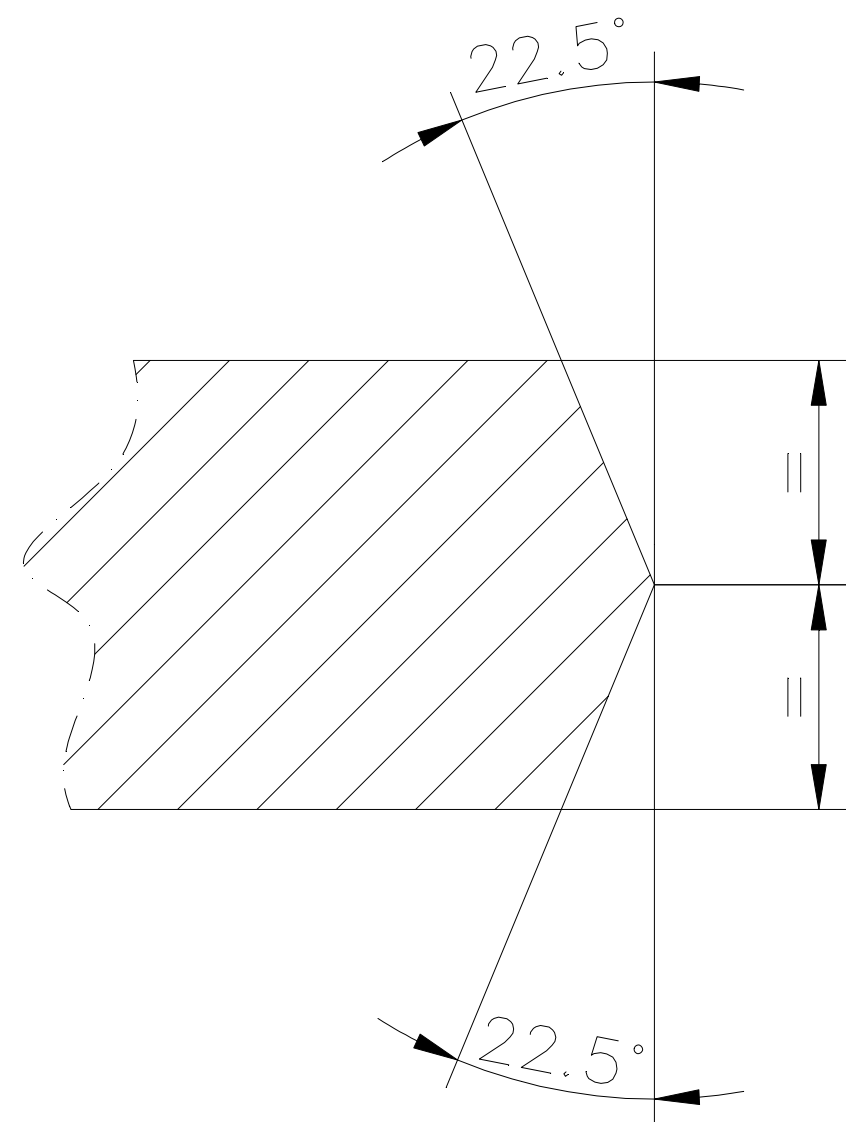
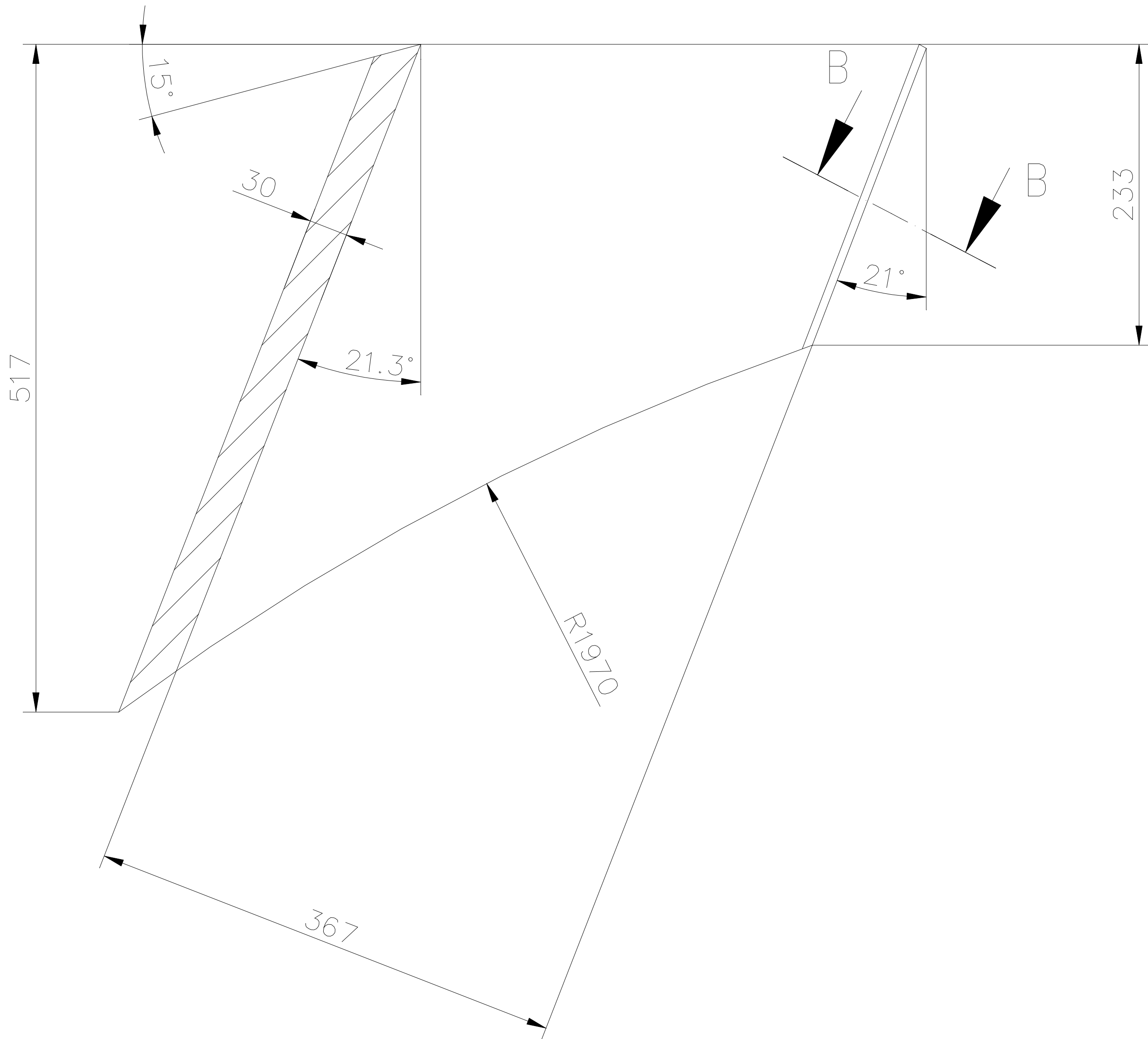
(ALL DIMENSIONS ARE IN mm)

FORM DG 44(B)

50 / ALL OVER EXCEPT OTHERWISE STATED



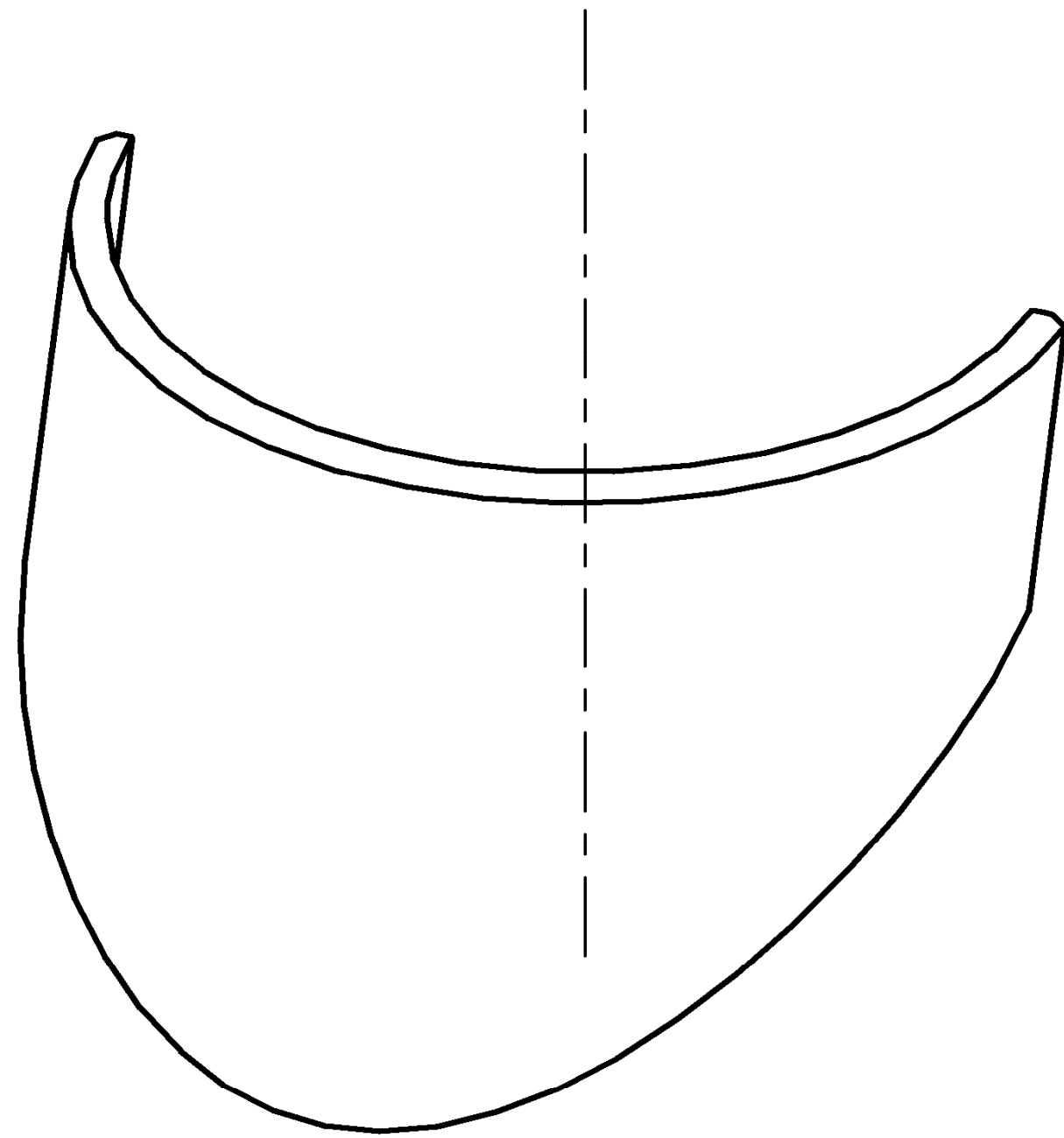
SECTION AA



SECTION BB

SCALE 1:1

1:10



TECHINICAL REQUIREMENTS: –

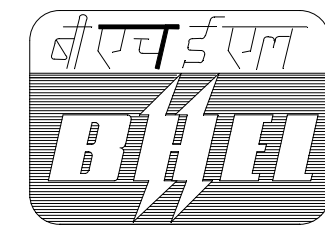
1. IDENTIFICATION ACCORDING TO HW 0400397.

GRADE OF UNTOL.DIM
M/CG.-C/M/F AA0230208
WELDING-A/B/C/D / / AA0621104
GAS CUTTING-T3'AA0621101

GMS No./ CBOM No.			STATUS OF DRG
9-10742-58000			
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT

STEAM TURBINE



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

NAME	SIGN	DATE
POONAM	SD/-	28.11.2011
DINESH	SD/-	01.12.2011
D.K.RAY	SD/-	

NO. OF
VAR

73 74
75 77

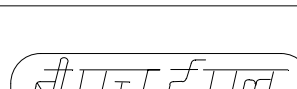
REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
-----	------	--------------------	-----	------	--------------------	-----	------	--------------------	-----	------	--------------------	-----	------	--------------------	-----	------	--------------------

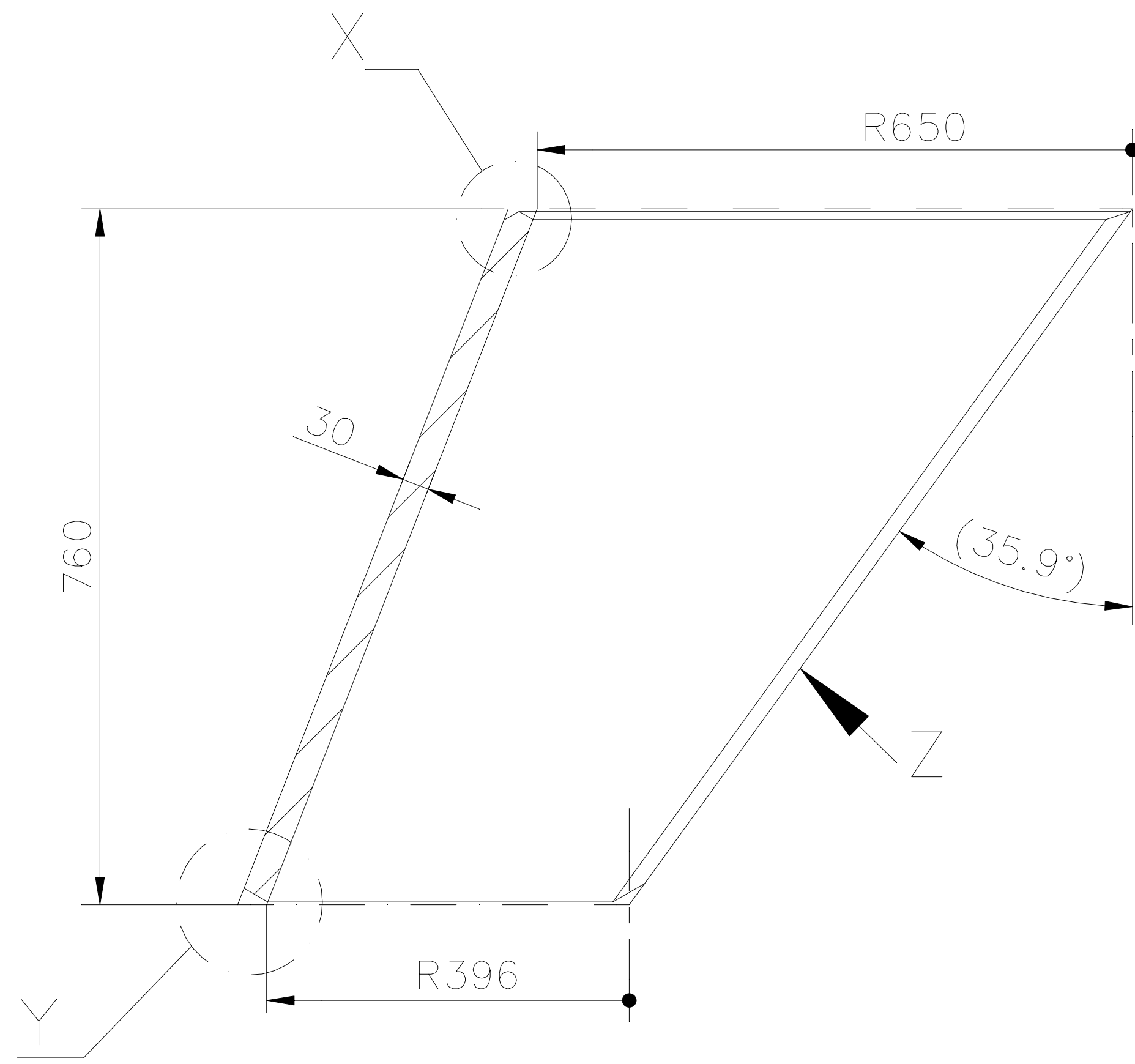
DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.
CODE	4011	1:5	121.00	9-10742-58000	121
TITLE :	PLATE	CARD CODE	DRAWING NO.	2-10742-58121	22 23 24
			SHEET No. 01	No. OF SHEETS 02	

SIZE A2

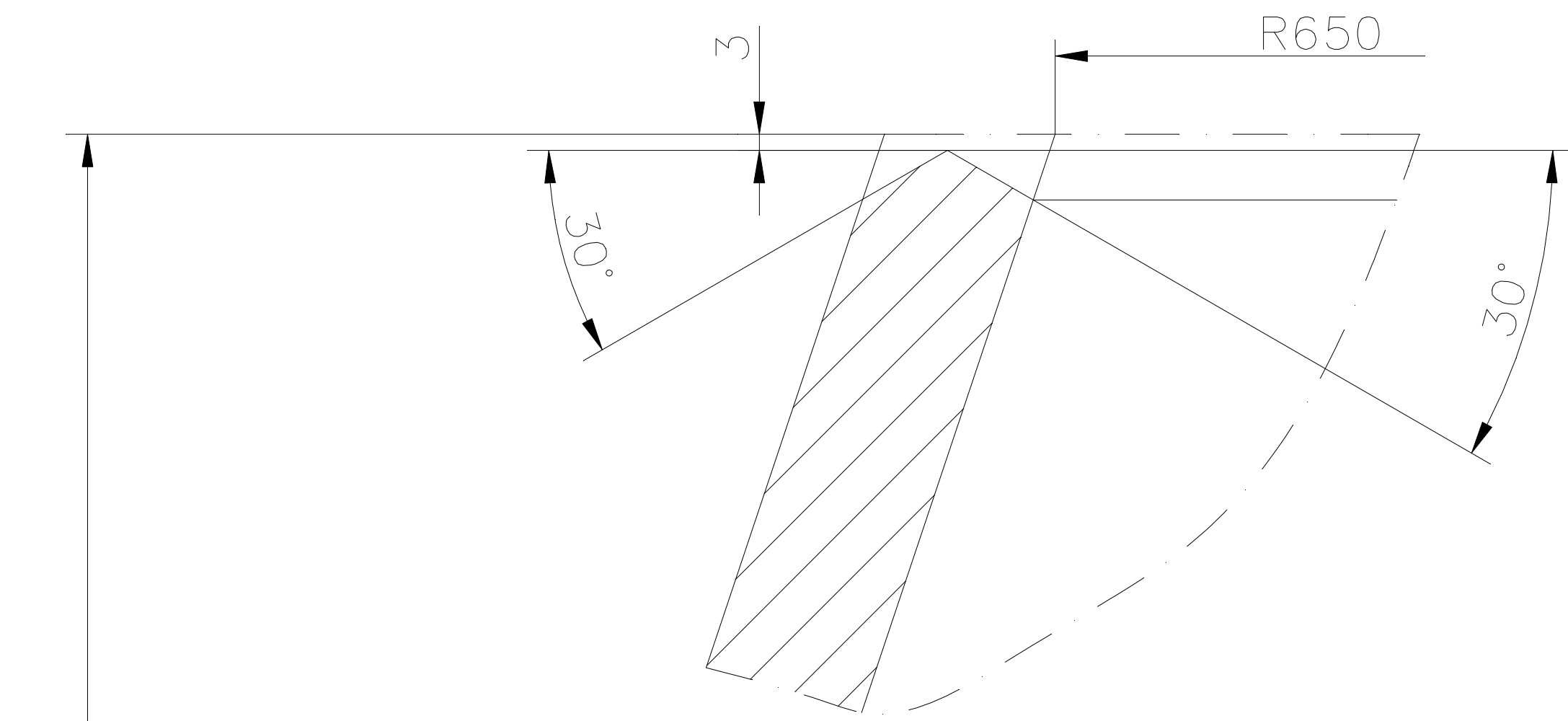
COPYRIGHT AND CONFIDENTIAL



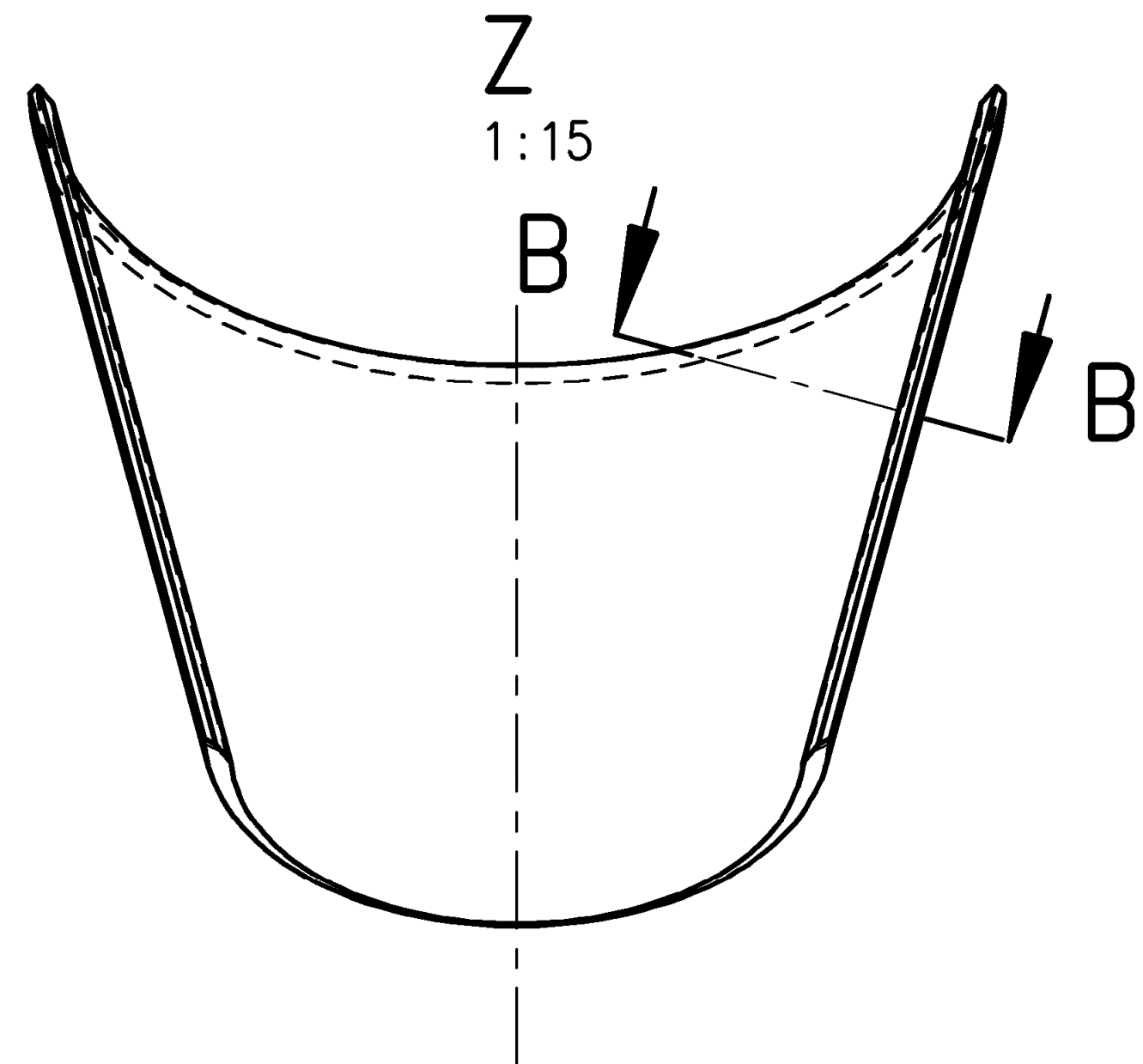
Ref. DSRP	F	GRADE OF UNTOL.DIM M/CG.-Ø/M/Ø AA0230208 WELDING-Ø/B/Ø/Ø AA0621104 GAS CUTTING-'T3'AA0621101 GMS-No. / CBOM No. 9-10742-58000 STATUS OF DRG												TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE									
		REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED												 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		DRN AFZAL KHAN -SD/- 18.07.2012	SIGN -SD/-	DATE 19.07.2012	NO. OF VAR 73 74						
Sign & Date	Inventory No.	REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED REV DATE ALTERED CHECKED												DEPT STE CODE 4011		 SCALE 1: 4	WEIGHT (KG) 121	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 121	NO. OF ITEMS 75 77					
		TITLE : PLATE												CARD CODE 7	DRAWING NO. 2-10742-58121	22 23 24									
		1		2		3		4		5		6				SHEET No. 02		No. OF SHEETS 02							



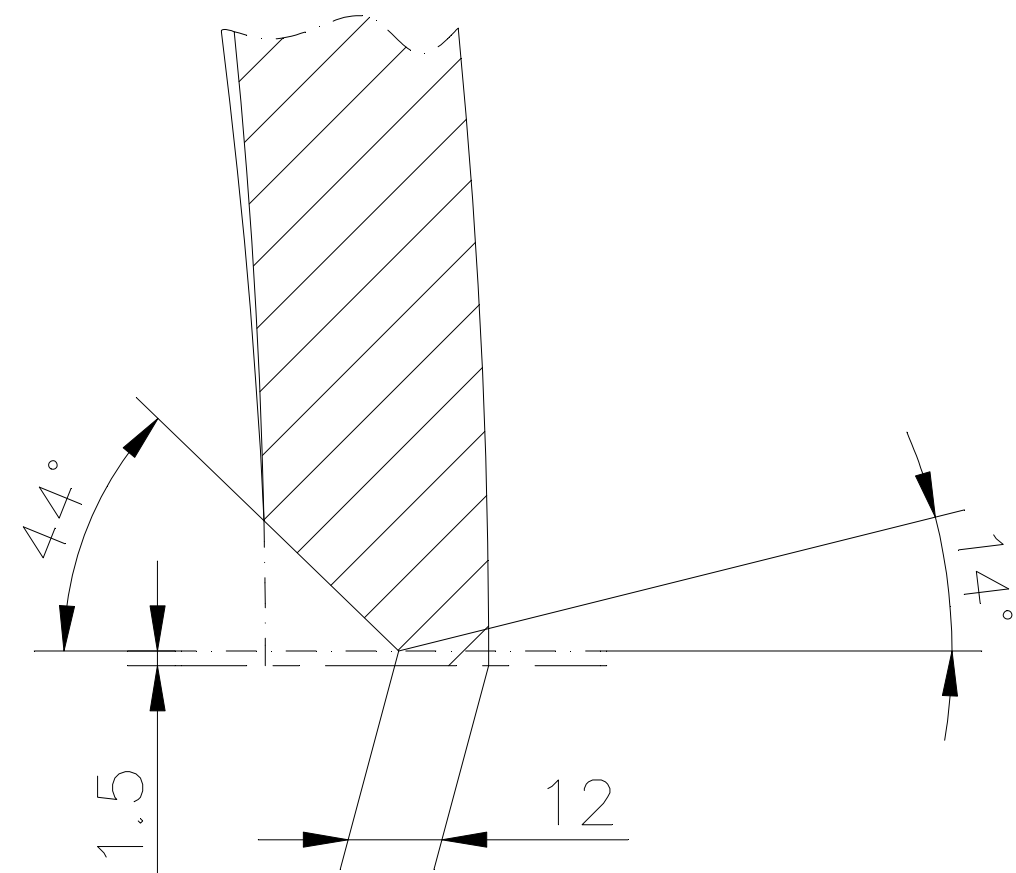
SECTION AA



DETAIL X
SCALE 1:2



SECTION BB (TURNED)
SCALE 1:2



TECHNICAL REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397.

SIZE A2

2-10742-58122

DRAWING NO.

2

3

4

5

6

7

8

1998

TOP LINE
XT, YT

10 FABRICATION ALLOWANCE

FABRICATION
ALLOWANCE

FABRICATION
ALLOWANCE

SYMMETRICAL

BASE LINE
XB, YB

DEVELOPMENT OF PLATE

SL. NO.	CO-ORDINATES			
	BASE LINE		TOP LINE	
	XB	YB	XT	YT
0	0	0	0	0
1	60	3	100	4
2	121	9	200	13
3	181	19	300	28
4	242	31	400	47
5	303	45	500	70
6	363	62	599	95
7	423	79	699	123
8	448	96	799	150
9	544	112	899	175
10	605	125	999	196

[illegible]

SIZE A2

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IN ANY WAY DETERMINAL TO THE INTEREST OF THE COMPANY.

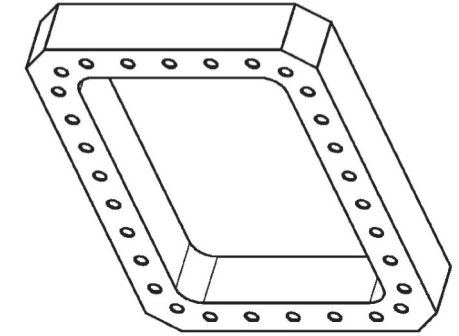
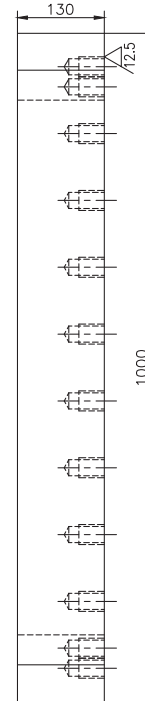
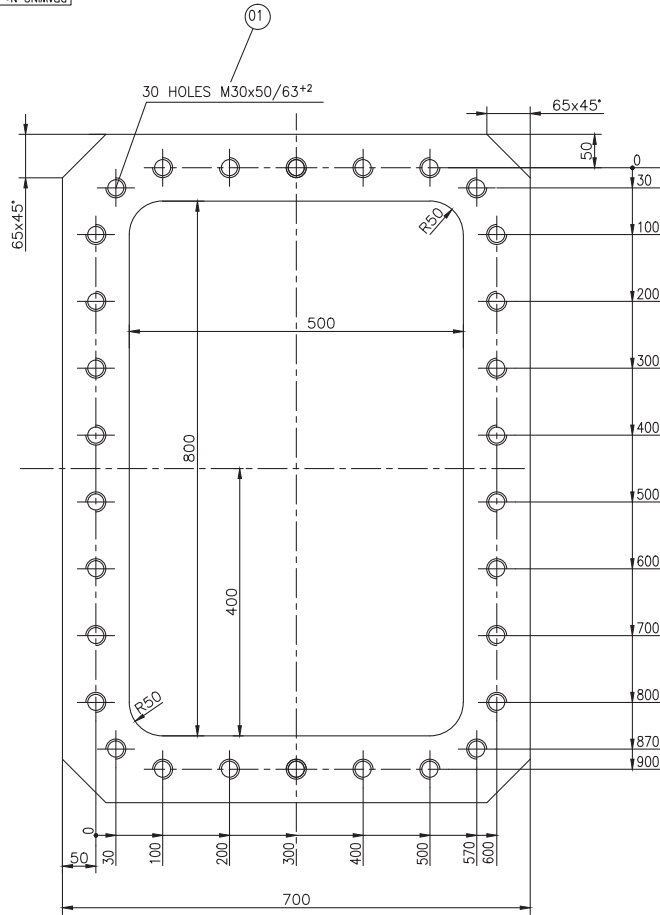
Inventory No.
Sign & Date
Ref Drawing No.
TIN NO.

2-10742-58123
DRAWING No.

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 44(B)



1:10

50/ ALL OVER EXCEPT
OTHERWISE STATED

TECHNICAL REQUIREMENTS:-
1. IDENTIFICATION ACCORDING TO HW 0400397.

GRADE OF UNTOL. DIM
M/CG.- AA0230208 m
WELDING-CLASS 'B' OF AA0621104
GAS CUTTING-TABLE 3 OF AA0621101

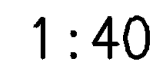
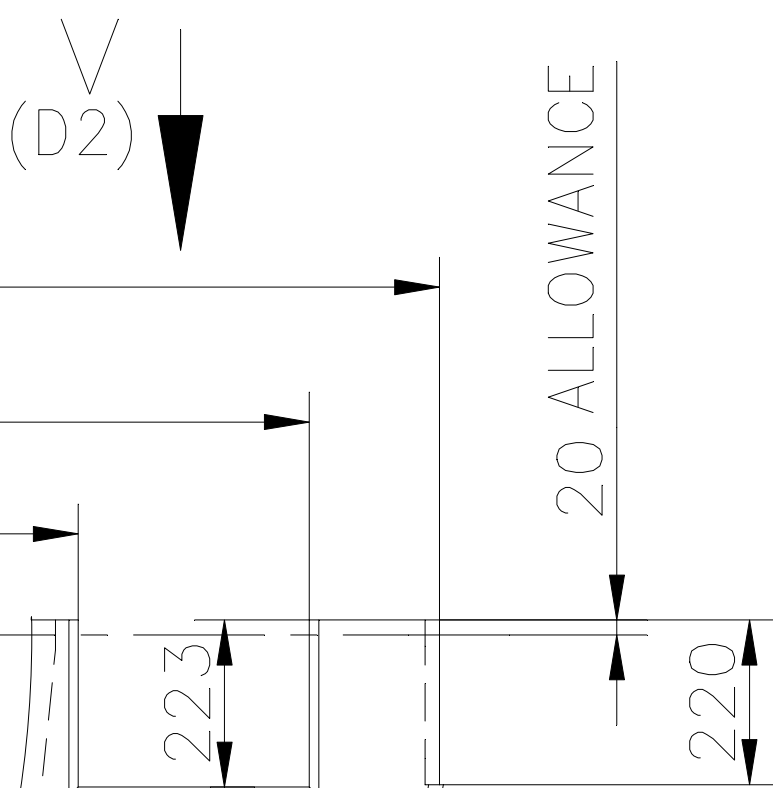
CBOM No.
9-10742-58000
STATUS
OF ORG
AGREED
DEPT
NAME
SIGN
DATE
WT
H. VERMA
sd/-
28.07.12
REV
DATE
ALTERED
MANOJ SD/-
01
11.8.18
CHECKED
DINESH SD/-
CHANGES MADE AS PER
CHANGE ADVICE.
C/A NO. STE-18-F0203.

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT
STEAM TURBINE

BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		NAME POONAM DINESH D.K.RAY	SIGN sd/- sd/- sd/-	DATE 28.11.2011 01.12.2011 01.12.2011	NO. OF VAR
DEPT CODE 4011	STE	SCALE 1:5	WEIGHT (KG) 292.00	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 123
TITLE : FLANGE		CARD CODE	DRAWING NO. 2-10742-58123		
		SHEET No.		No. OF SHEETS	1

SIZE A2

50

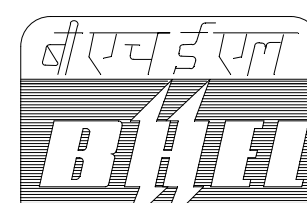
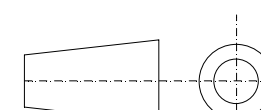


DETAIL: FULL PENETRATION WELD
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

1. "※" IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9692-1.THE DRAWING REQUIREMENTS (E.G. WELD QUALITY, FULL PENETRATION, BUTT WELD,FILLET WELD) MUST BE CONSIDERED.
2. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
3. WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
4. IDENTIFICATION ACCORDING TO HW0400397

REV	DATE	ALTERED
		CHECKED

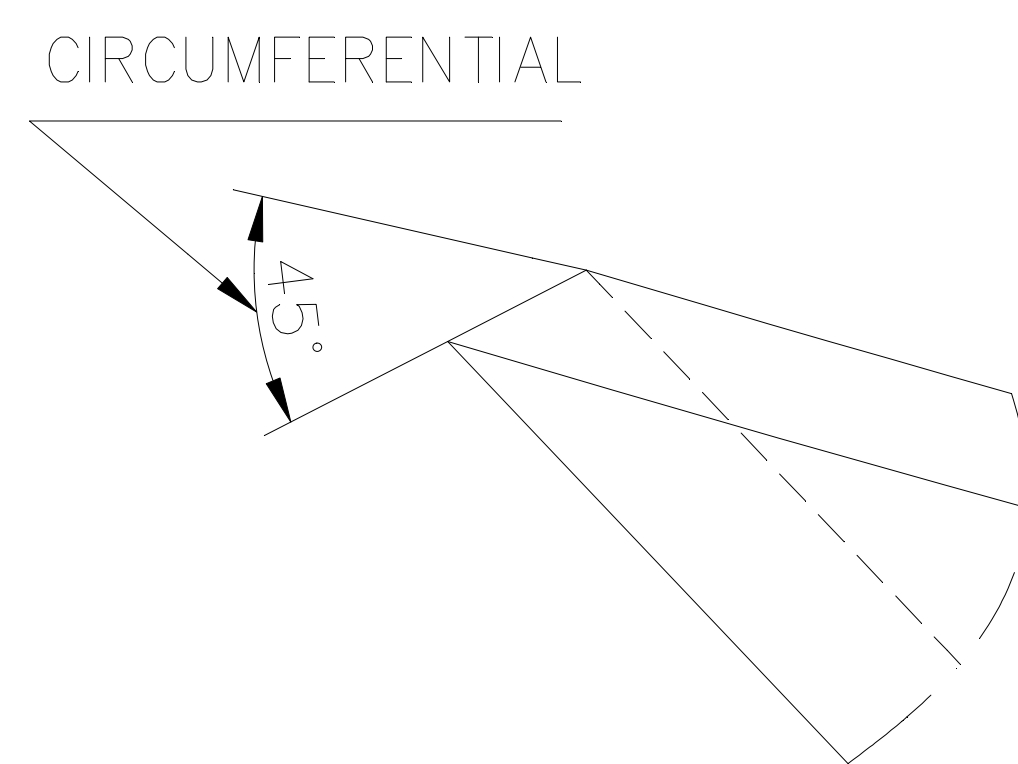
REV	DATE	ALTERED	MONIKA
01	25.05.13	CHECKED	DINESH
	DATE & NO. OF SHEET UPDATED INSERT NEW SHEET. AS PER C\A NO. STE-13-F0205.		

TYPE OF PRODUCT		STEAM TURBINE																					
OR																							
NAME OF CUSTOMER/PROJECT																							
		BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				<table><tr><td></td><td>NAME</td><td>SIGN</td><td>DATE</td></tr><tr><td>DRN</td><td>POONAM</td><td>sd/-</td><td>17.08.2012</td></tr><tr><td>CHD</td><td>DINESH</td><td>sd/-</td><td>22.08.2012</td></tr><tr><td>APPD</td><td>D.K.RAY</td><td>sd/-</td><td>23.08.2012</td></tr></table>			NAME	SIGN	DATE	DRN	POONAM	sd/-	17.08.2012	CHD	DINESH	sd/-	22.08.2012	APPD	D.K.RAY	sd/-	23.08.2012
	NAME	SIGN	DATE																				
DRN	POONAM	sd/-	17.08.2012																				
CHD	DINESH	sd/-	22.08.2012																				
APPD	D.K.RAY	sd/-	23.08.2012																				
DEPT STE			SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No. 213	NO. OF ITEMS																
CODE 4011			1:20	557.00	9-10742-58000																		
TITLE :					CARD CODE	DRAWING NO.																	
HALF CONE						2-10742-58213																	
						22	23 24																
					SHEET No.	1	No. OF SHEETS																
						2																	

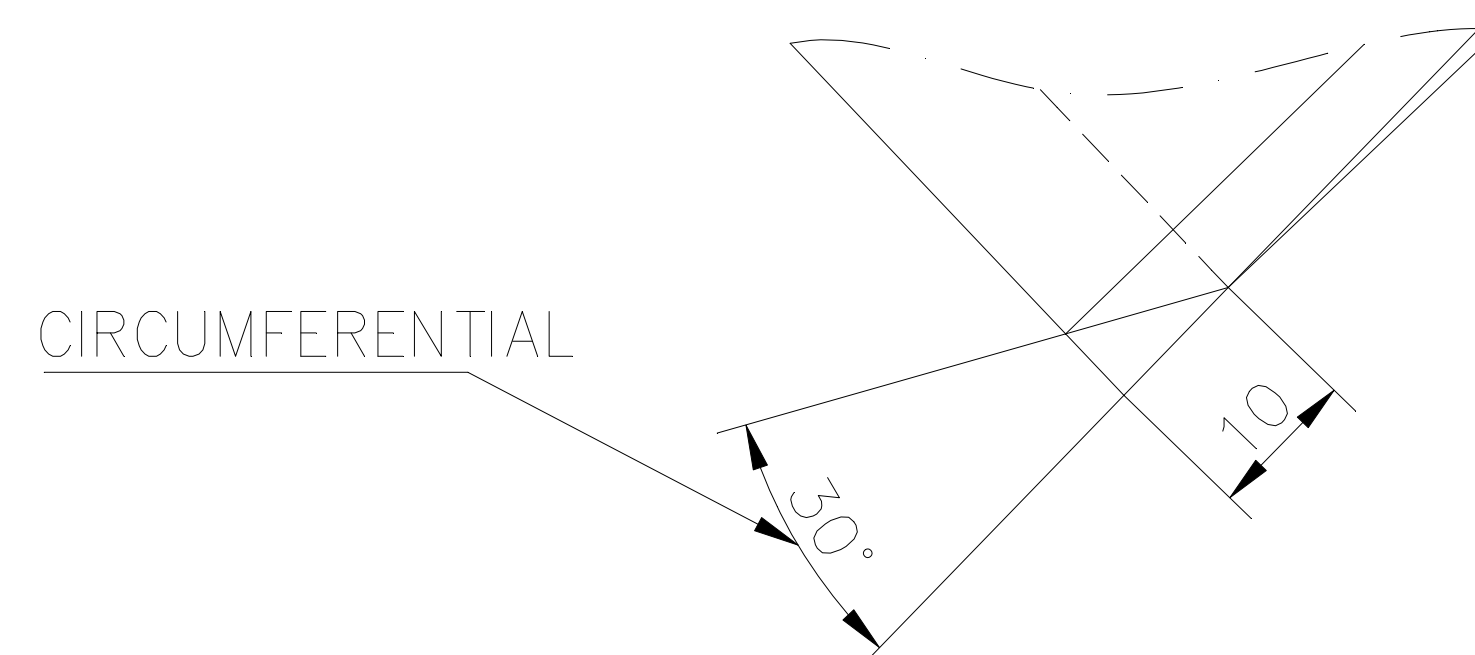
50/ ALL OVER EXCEPT
OTHERWISE STATED

DRAWING No. 2-10742-58216

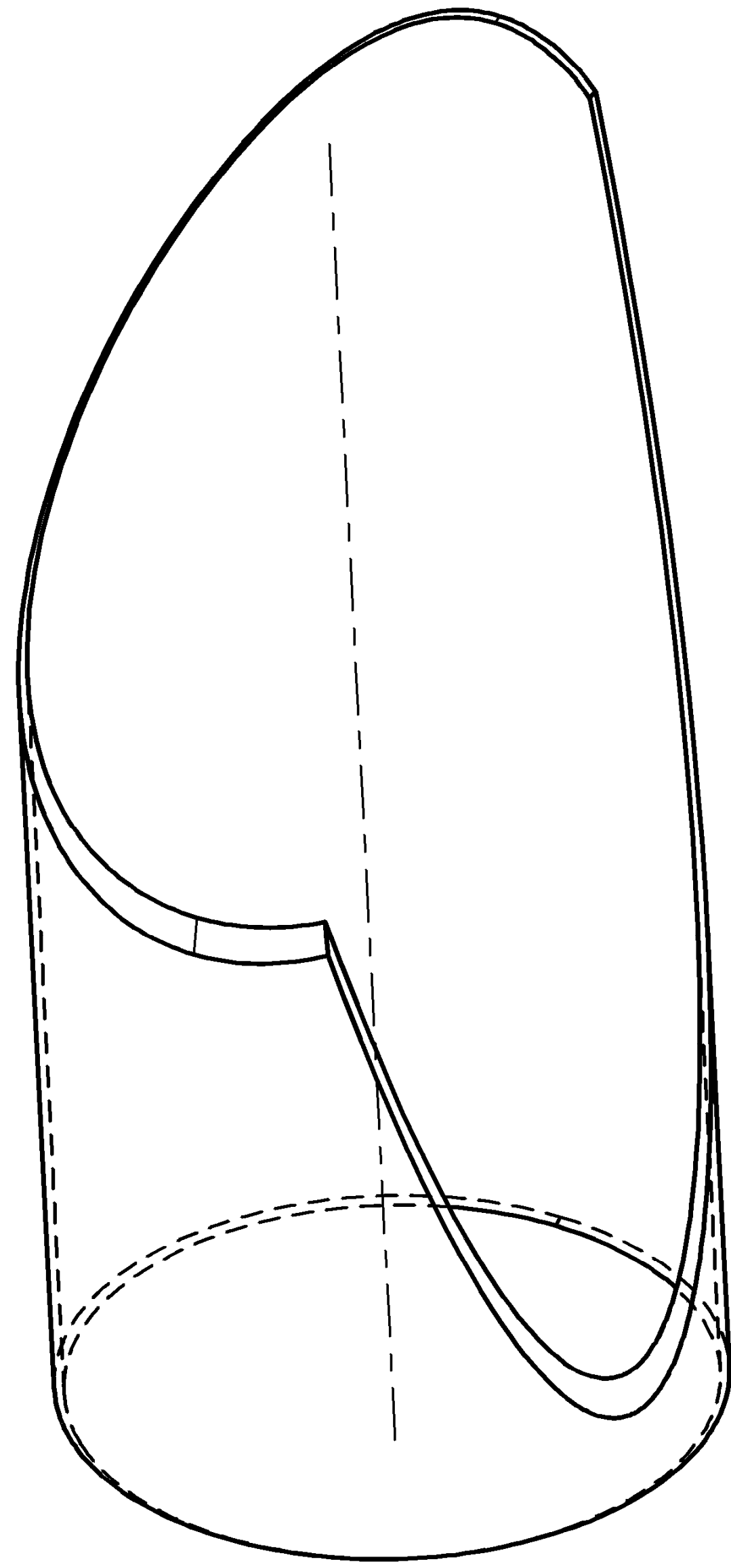
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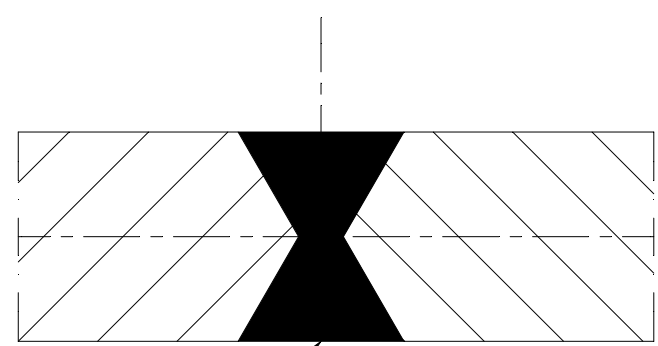
DETAIL X
SCALE 1:1



DETAIL Y
SCALE 1:1



DETAIL: FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

TECHNICAL REQUIREMENTS: –

1. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
2. WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
3. IDENTIFICATION ACCORDING TO HW0400397

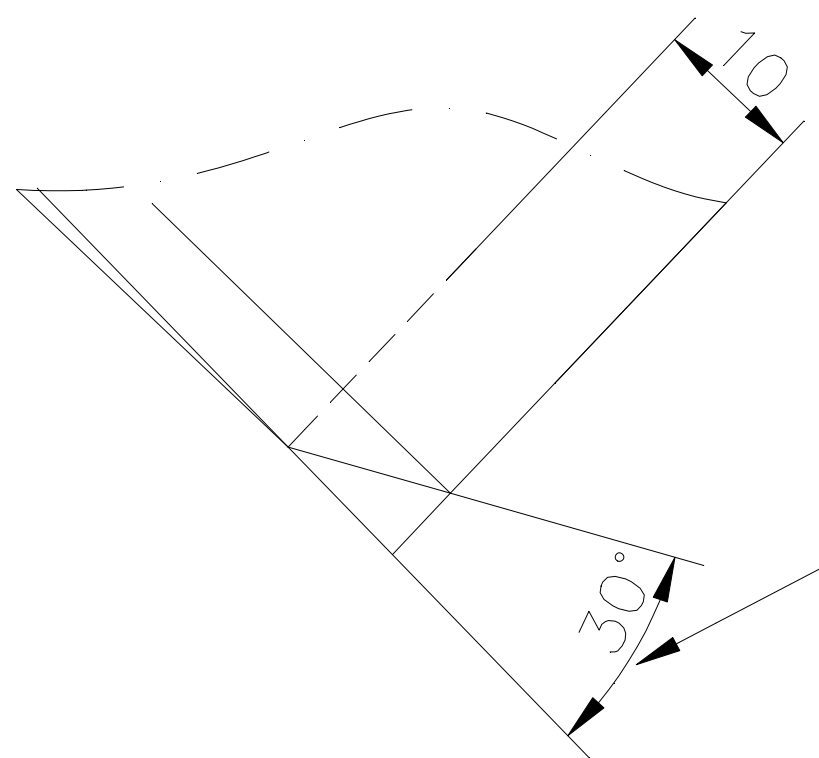
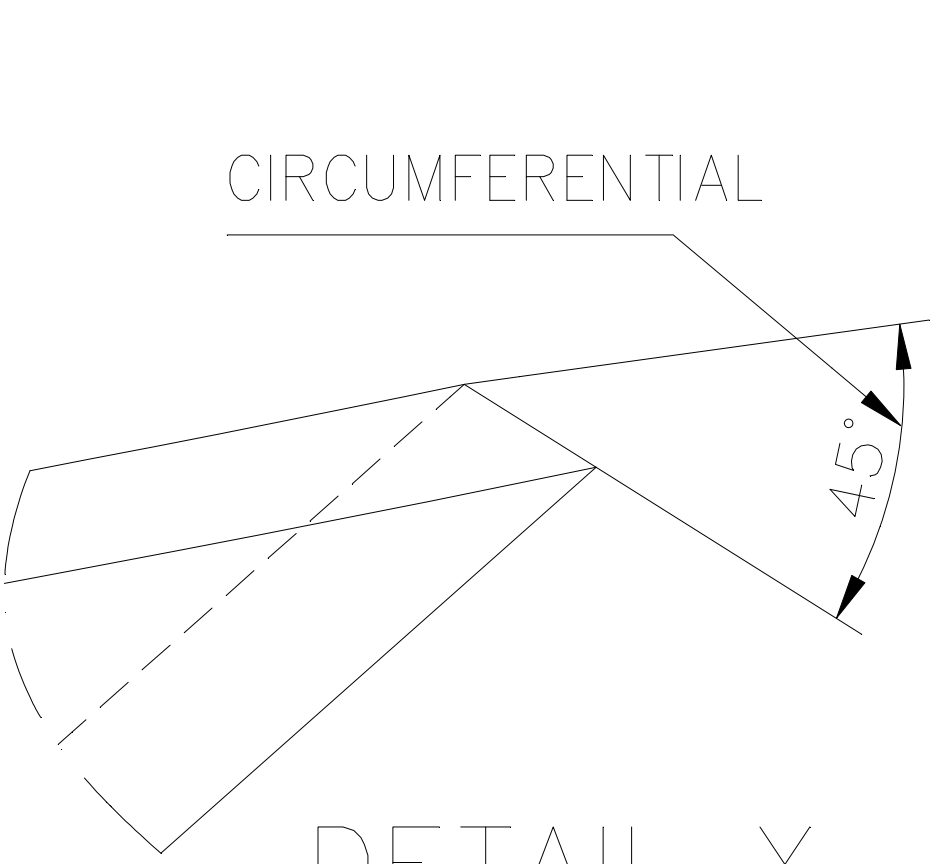
VIEW Z

CIRCUMFERENTIAL

DETAIL Y
SCALE 1:1

CIRCUMFERENTIAL

DETAIL X
SCALE 1:1



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Inventory No.	Sign & Date	Ref. Drawing No>	TIN NO.
		DSPPG-0127034	PSK046L677

GRADE OF UNTOL. DIM		
M/CG.- AA0230208 m		
WELDING-CLASS 'B' OF AA0621104		
GAS CUTTING-TABLE 3 OF AA0621101		
REV	DATE	ALTERED
		CHECKED

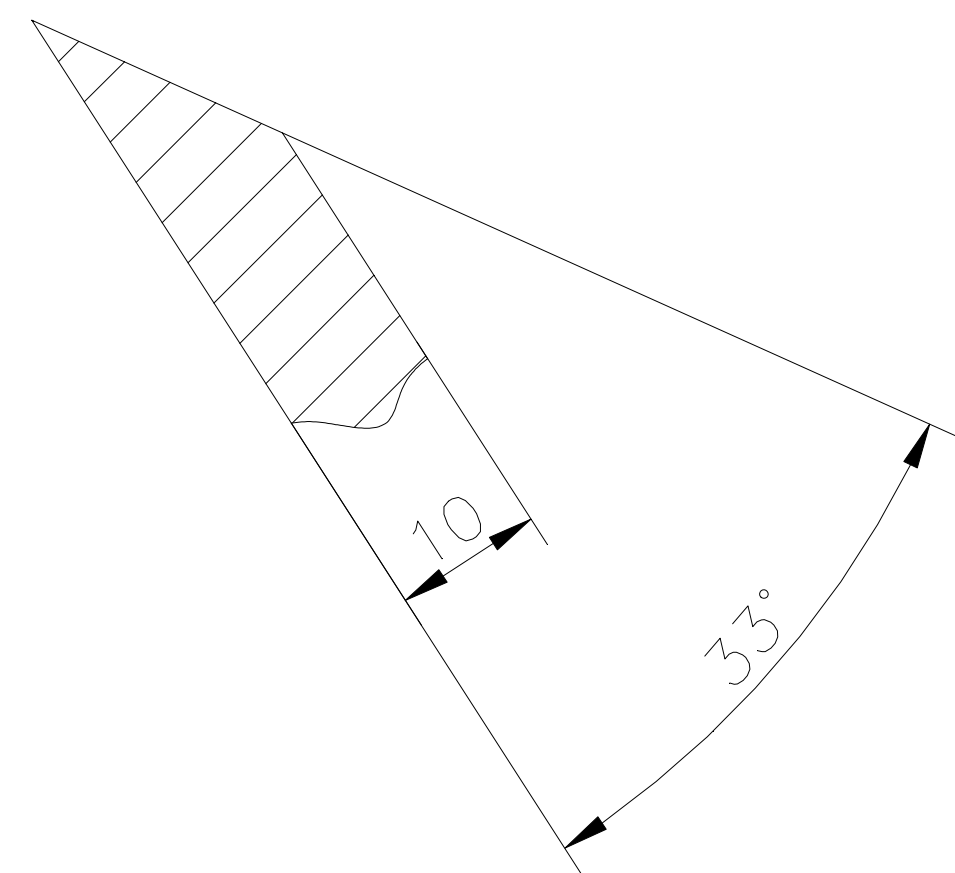
CBOM No. 9 10742 58000			STATUS OF DRG U	
AGREED DEPT	NAME	SIGN	DATE	
WT	H. VERMA	sd/-	28.07.12	
REV	DATE	ALTERED	MONIKA	
01	18.05.13	CHECKED	DINESH	

TYPE OF PRODUCT		STEAM TURBINE															
OR																	
NAME OF CUSTOMER/PROJECT																	
		BHARAT HEAVY ELECTRICALS LTD.				NO. OF VAR											
		RANIPUR, HARDWAR															
DEPT		STE				SCALE		WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.		NO. OF			
CODE		4011				1:10		156.00		9-10742-58000		217		ITEMS			
TITLE :						CARD CODE		DRAWING NO.									
PIPE								2-10742-58217				22		23		24	
								SHEET No.		1		No. OF SHEETS		2			

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Ref. Drawing No>
DSPPG-0127047
105CE 200505/024

Inventory No.



TECHNICAL REQUIREMENT .

1. IDENTIFICATION ACCORDING TO HW 0400397

SIZE A2

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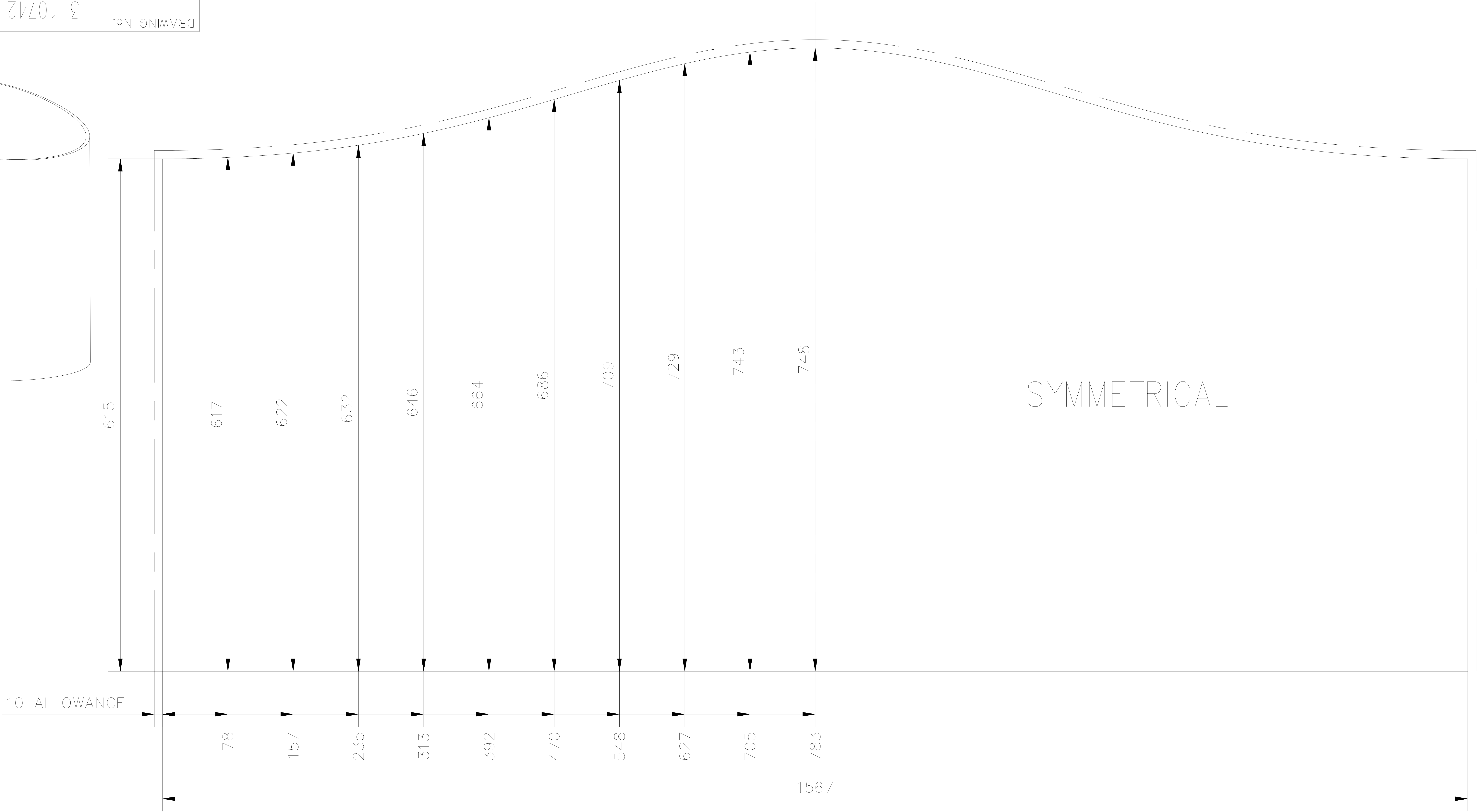
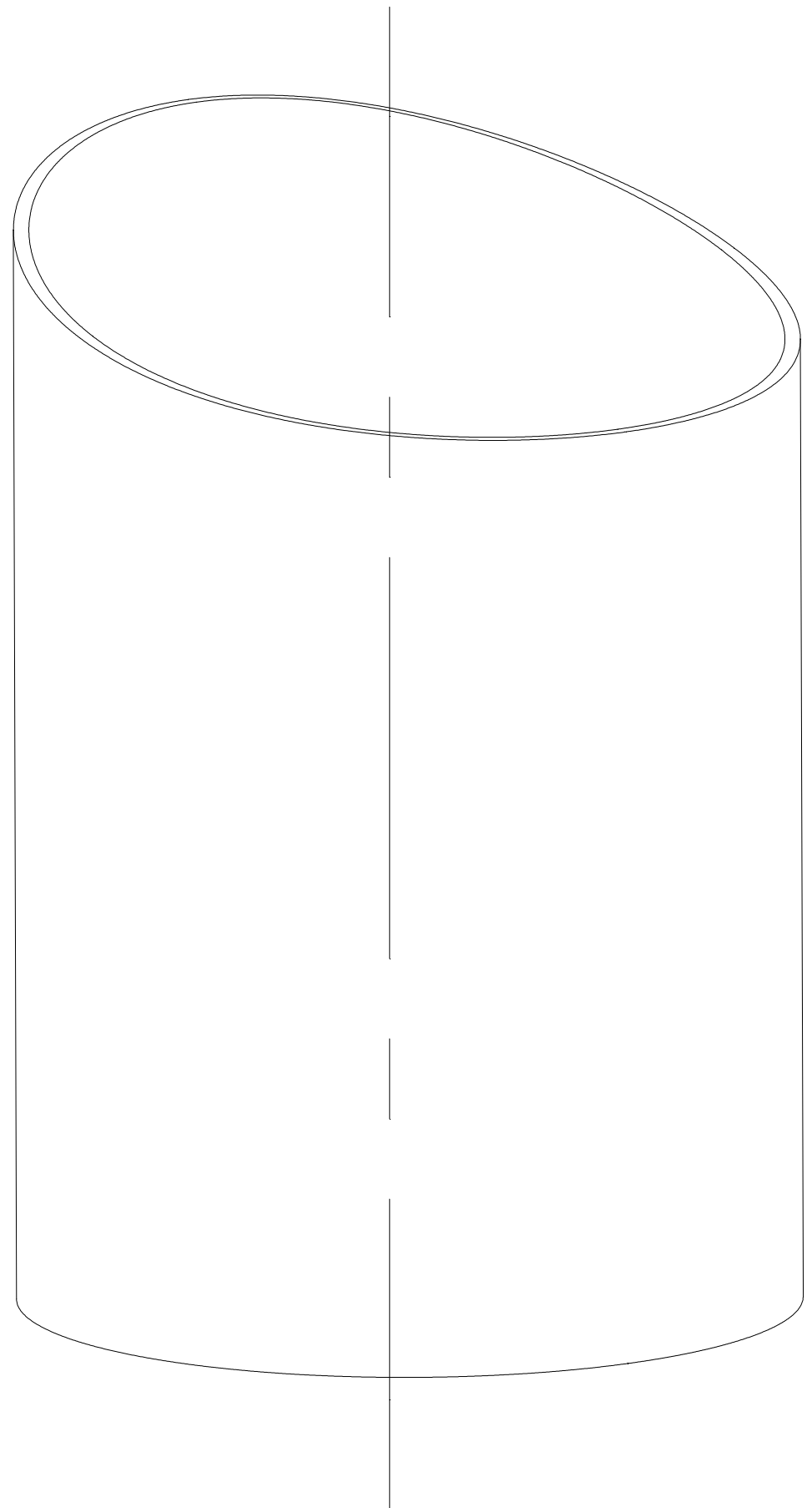
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Inventory No.	Sign & Date	Ref.Drawing No>	TIN NO.
		DSPPG-0127046	PSK046L691

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)



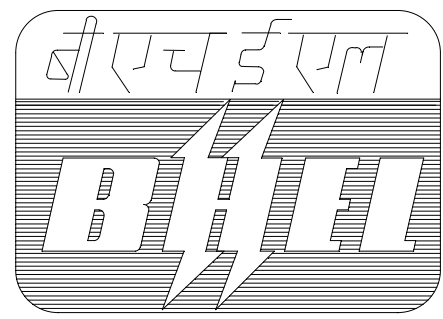
SYMMETRICAL

DEVELOPMENT OF PIPE

GRADE OF UNTOL.DIM		
M/CG.-Ø/M/F AA0230208		
WELDING-Ø/B/Ø/Ø AA0621104		
GAS CUTTING-'T3'AA0621101		

GMS No./ 9-10742-58000		C B O M		STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE	
WT	H.VERMA	-SD/-	28.07.12	

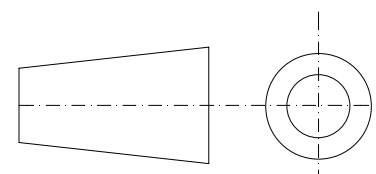
TYPE OF PRODUCT STEAM TURBINE
OR
NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

	NAME	SIGN	DATE	NO. OF VAR — 73 74
DRN	AFZAL KHAN	-SD/-	18.07.2012	
CHD	DINESH	-SD/-	19.07.2012	
APPD	D.K.RAY	-SD/-	28.07.2012	

DEPT STE
CODE 4011



SCALE
1:5

WEIGHT (KG)
81.4

REF. TO ASSY. DRG.
9-10742-58000

ITEM No. 231
NO. OF ITEMS
—
75 77

TITLE :

PIPE

CARD CODE

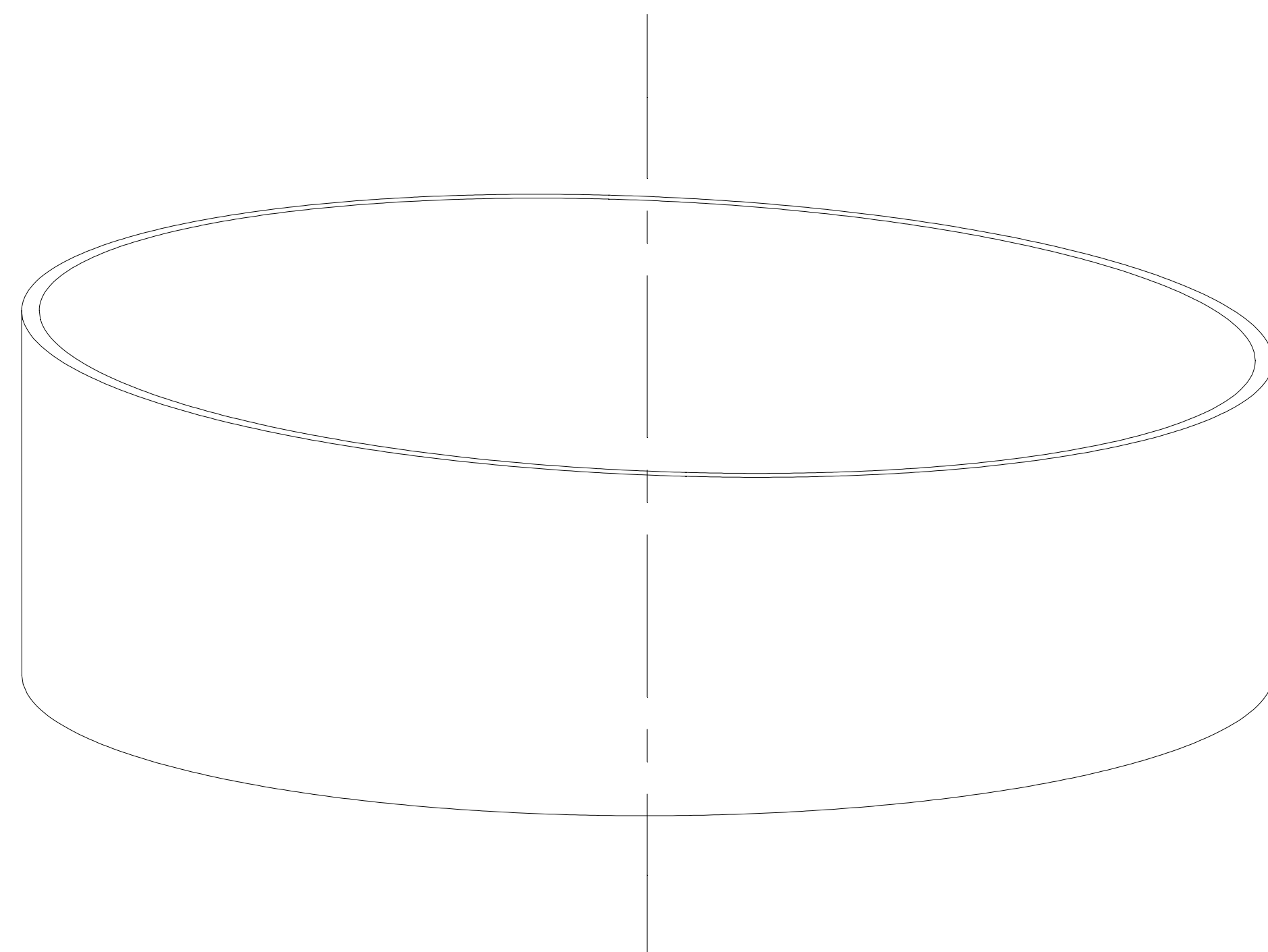
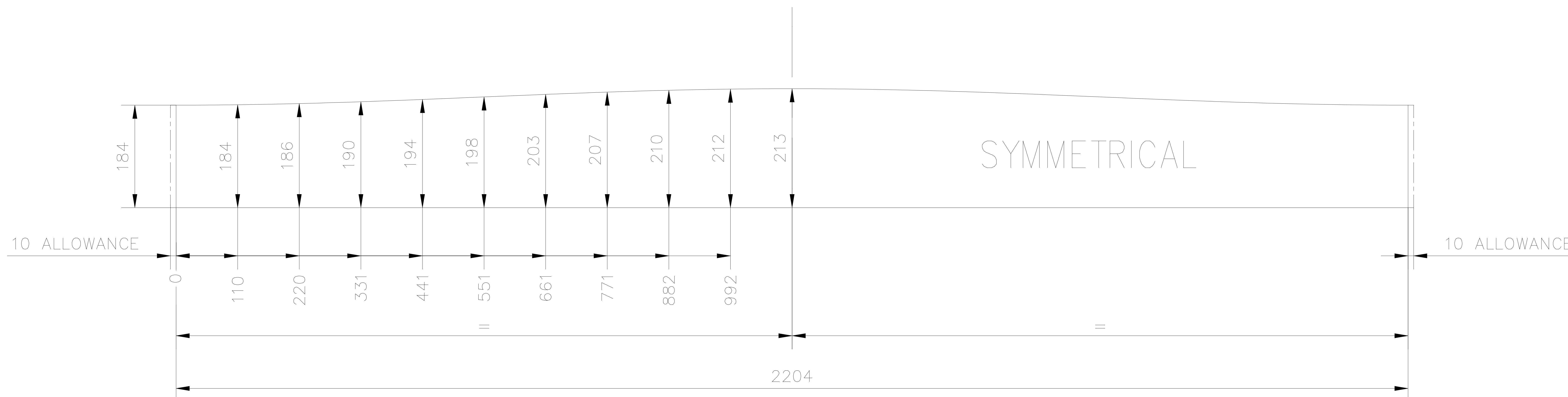
DRAWING NO.
3-10742-58231

SHEET No. 02

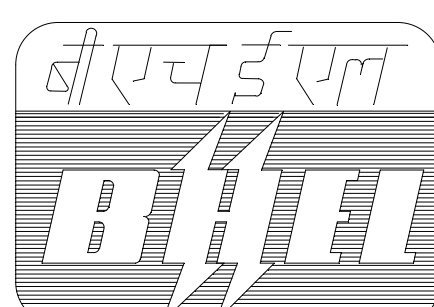
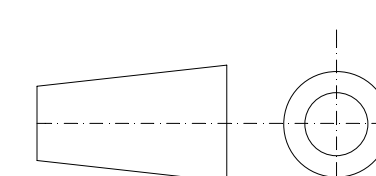
No. OF SHEETS 02

SIZE A3

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DEVELOPMENT OF PIPE

Ref. No. DSPP											-GMS No. / C B O M 9-10742-58000		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT																														
	GRADE OF UNTOL.DIM										AGREED DEPT WT		NAME H.VERMA		SIGN -SD/-		DATE 28.07.12		बीएचईएल  BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR <table><tr><td>DRN</td><td>NAME</td><td>SIGN</td><td>DATE</td><td rowspan="3">NO. OF VAR — 73 74</td></tr><tr><td>AFZAL KHAN</td><td>-SD/-</td><td>18.07.2012</td></tr><tr><td>CHD</td><td>DINESH</td><td>-SD/-</td><td>19.07.2012</td></tr><tr><td>APPD</td><td>D.K.RAY</td><td>-SD/-</td><td>28.07.2012</td><td>75 76</td></tr></table>										DRN	NAME	SIGN	DATE	NO. OF VAR — 73 74	AFZAL KHAN	-SD/-	18.07.2012	CHD	DINESH	-SD/-	19.07.2012	APPD	D.K.RAY	-SD/-	28.07.2012	75 76
	DRN	NAME	SIGN	DATE	NO. OF VAR — 73 74																																								
	AFZAL KHAN	-SD/-	18.07.2012																																										
	CHD	DINESH	-SD/-	19.07.2012																																									
APPD	D.K.RAY	-SD/-	28.07.2012	75 76																																									
M/CG.- ~~Q~~ /M/F AA0230208																																													
WELDING- ~~A~~ /B/ ~~C~~ / ~~D~~ AA0621104																																													
GAS CUTTING-'T3'AA0621101																																													
Sign & Date	REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA	REV	DATE	ALTERED	MANOJ	DEPT	STE			SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.				ITEM	NO. OF ITEMS — 75 77																						
			CHECKED	02	18.05.13	CHECKED	DINESH	01	05.4.13	CHECKED	DINESH	CODE	4011			1: 8	33.4	9-10742-58000				No.		238																					
Inventory No					DATE UPDATED. THIS DRG. SUPERSEDED THE OLD DRG. UNDER THE SAME NO. AS PER C\A NO. STE-13-F0201.				CHANGES MADE AS PER CHANGE ADVICE. C/A NO. STE-12-F0504			TITLE : PIPE					CARD CODE	DRAWING NO.																											
																			3-10742-58238				22 23 24																						
																			SHEET No. 02				No. OF SHEETS 02																						

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Inventory No	Sign & Date	Ref.Drawing No	TIN NO.
		DSPPG-0127018	PSK046L649

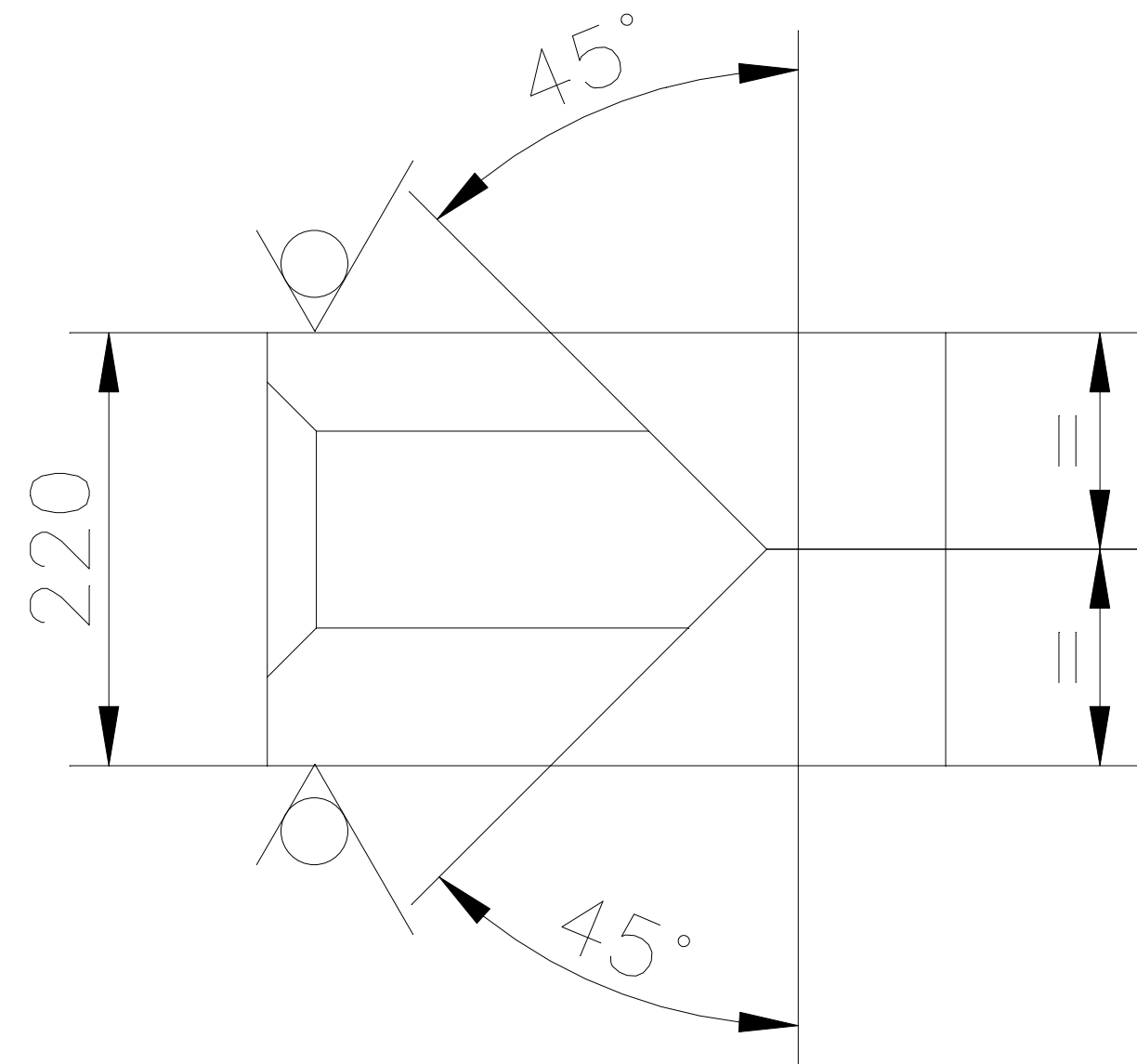
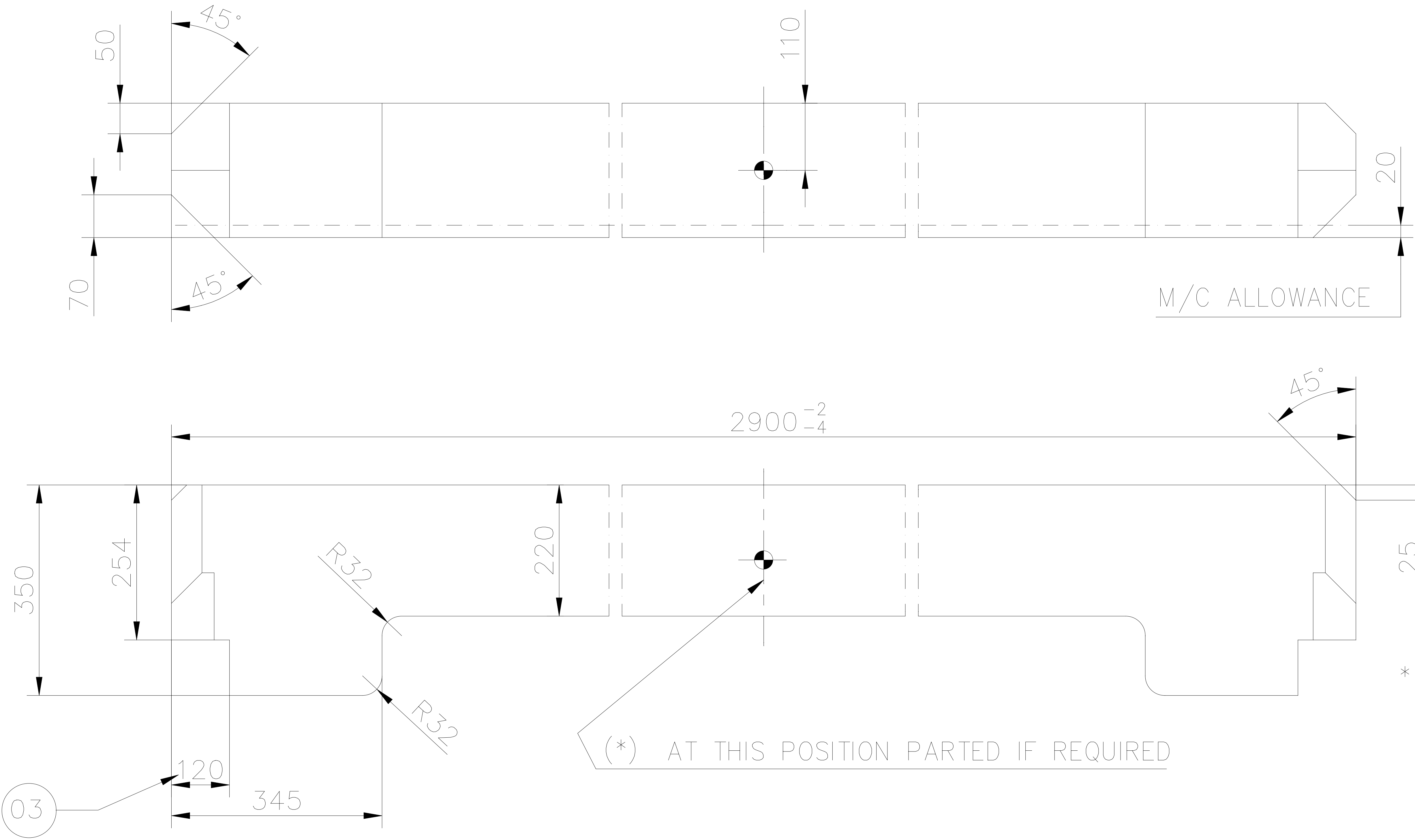
DRAWING No. 3-10742-58102

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

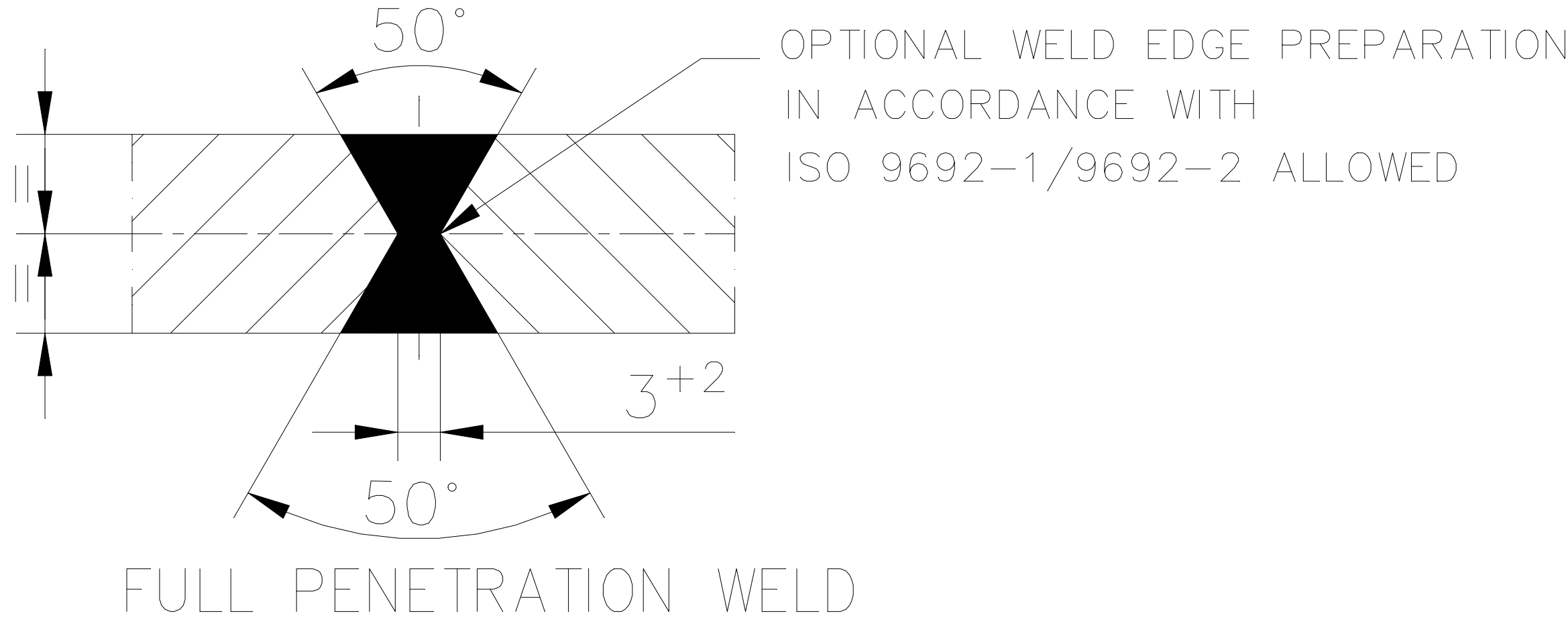
FORM DG 38(B)

12.5/ ALL OVER EXCEPT OTHERWISE STATED



CENTER OF GRAVITY

* IF REQUIRED PLATE DIVIDED IN PARTS AT MARKED PLACE.
THE WELD SEAMS SHALL BE MADE AS FULL-PENETRATION WELDS.
PERFORMANCE OF WELD SEAMS DEPENDING ON WELD
PROCEDURE OF SUPPLIER/SHOP. IN ACC. TO MAIN DRAWING OF
DESIGN GROUP OVERLAPPINGS AND INTERSECTIONS OF WELD
SEAMS SHALL BE AVOIDED.



TECHNICAL REQUIREMENTS: —

- WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
- WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW0400397

										-GMS No. / C B O M 0-10741-58500				STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT													
										AGREED DEPT WT		NAME H. VERMA		SIGN Sd/-		DATE 28.07.12													
										GRADE OF UNTOL. DIM																			
										M/CG.- AA0230208 m																			
										WELDING-CLASS 'B' OF AA0621104																			
										GAS CUTTING-TABLE 3 OF AA0621101																			
																				</									

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Inventory No.	Sign & Date	Ref.Drawing No> DSPPG-0127021	TIN NO. PSK046L653

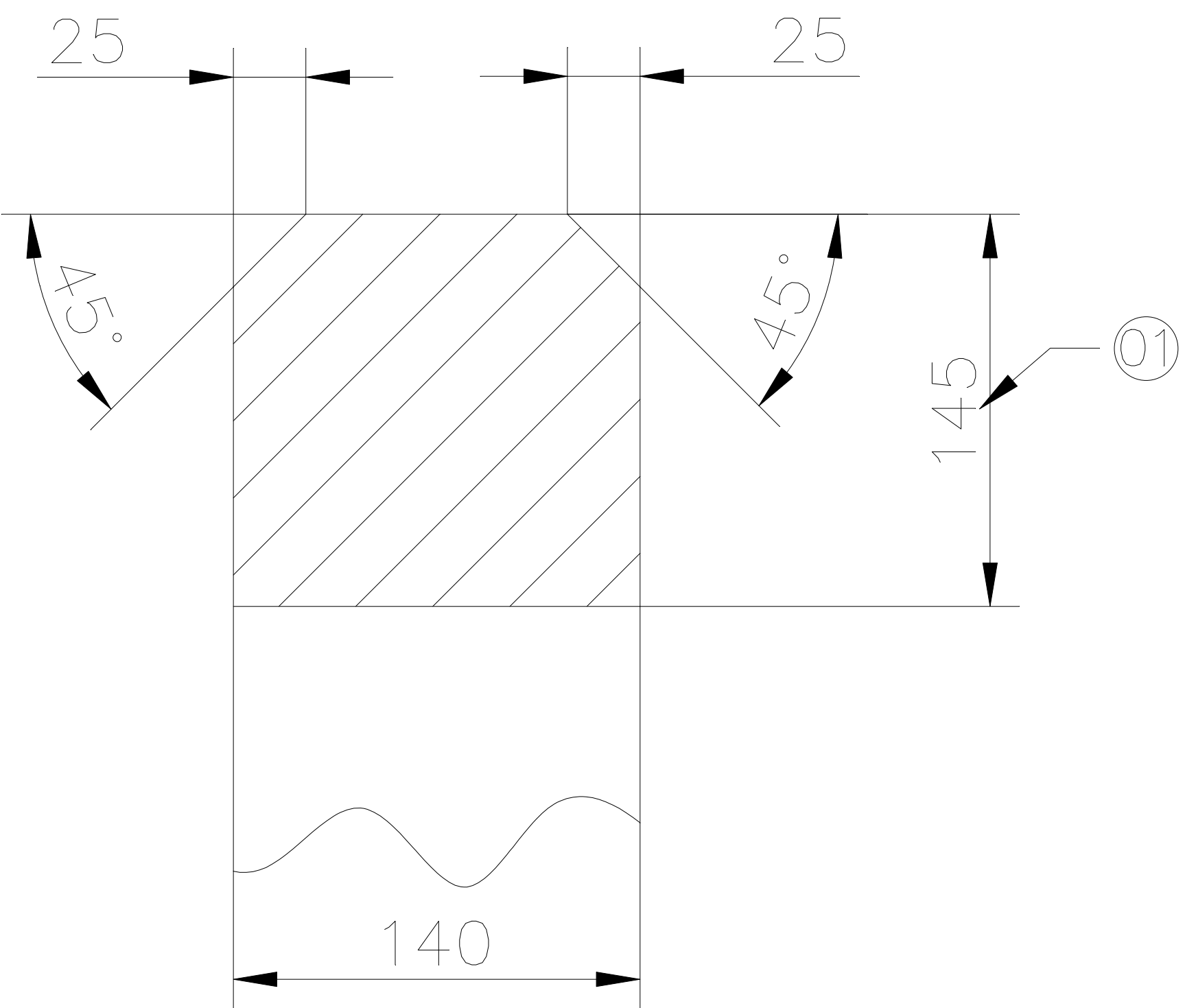
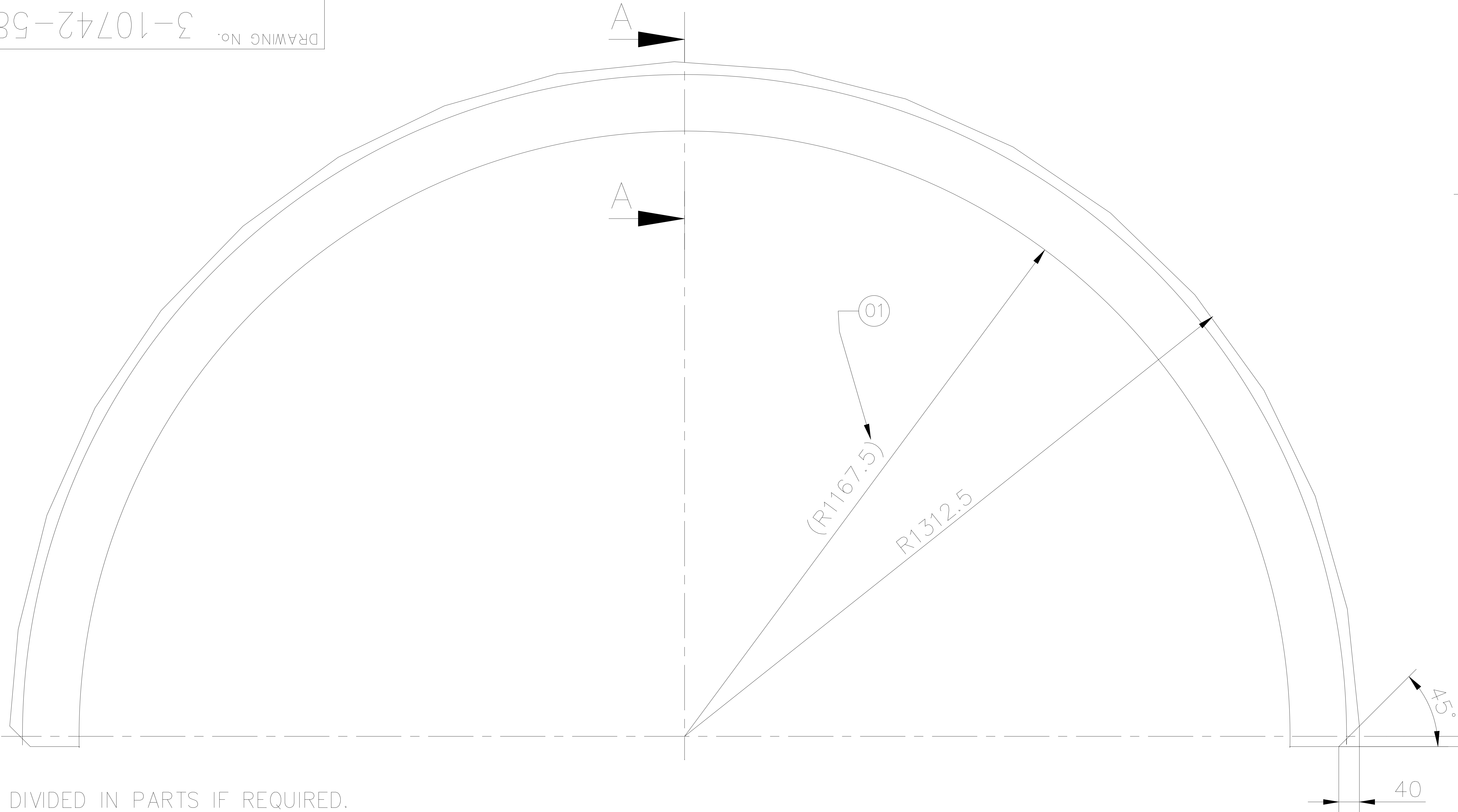
DRAWING No. 3-10742-58105

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

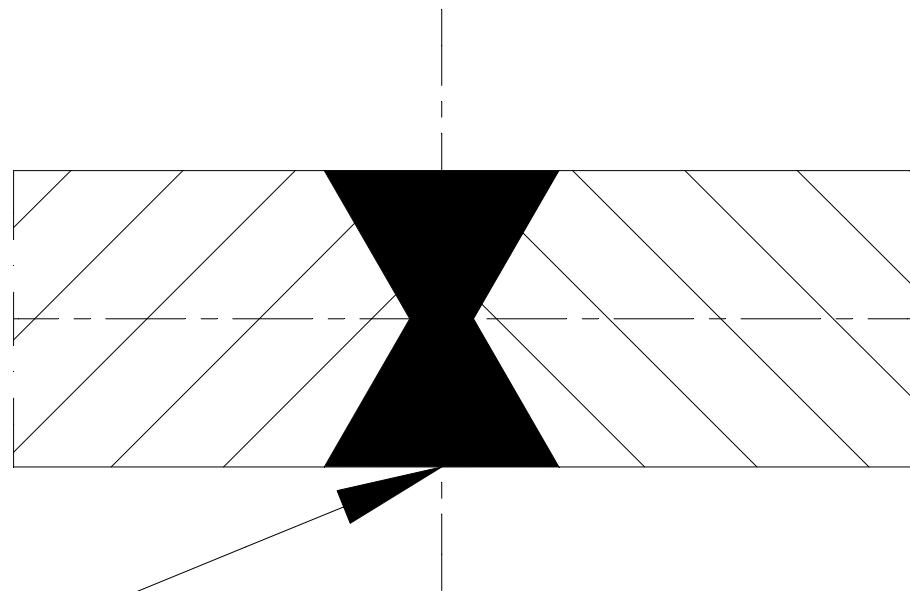
FORM DG 38(B)

50/ ALL OVER EXCEPT OTHERWISE STATED



SECTION AA
SCALE 1:5

M/C ALLOWANCE
DETAIL: FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

DIVIDED IN PARTS IF REQUIRED.
ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

TECHNICAL REQUIREMENTS:-

- WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
- WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW0400397

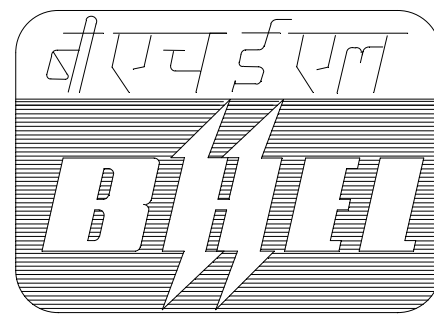
GRADE OF UNTOL. DIM		
M/CG.- AA0230208 m		
WELDING-CLASS 'B' OF AA0621104		
GAS CUTTING-TABLE 3 OF AA0621101		

REV	DATE	ALTERED
		CHECKED

REV	DATE	ALTERED
		CHECKED

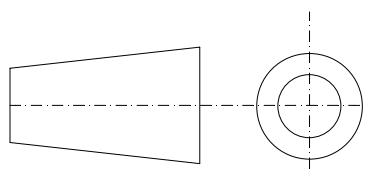
~~GMS No./~~ C B O M 9-10742-58000			STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12
REV 01	DATE 17.01.14	ALTERED CHECKED	ANOOP DINESH
IN MAIN VIEW RADIUS R1177.5 CHANGED TO R1167.5 & IN SECTION AA DIMENSION 135 CHANGED TO 145.			
AS PER C\A NO. STE-14-F0024.			

TYPE OF PRODUCT STEAM TURBINE
OR
NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

DEPT STE	SCALE 1:10	WEIGHT (KG) 564.00
CODE 4011		



TITLE :
HALF RING

DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	POONAM	SD/-	28.11.2011	
APPD	DINESH	SD/-	01.12.2011	73 74
	D.K.RAY	SD/-	28.07.2012	75 77
REF. TO ASSY. DRG. 9-10742-58000				ITEM No. 105 205
DRAWING NO. 3-10742-58105				NO. OF ITEMS 75 77
SHEET No. 1				No. OF SHEETS 1

SIZE A3

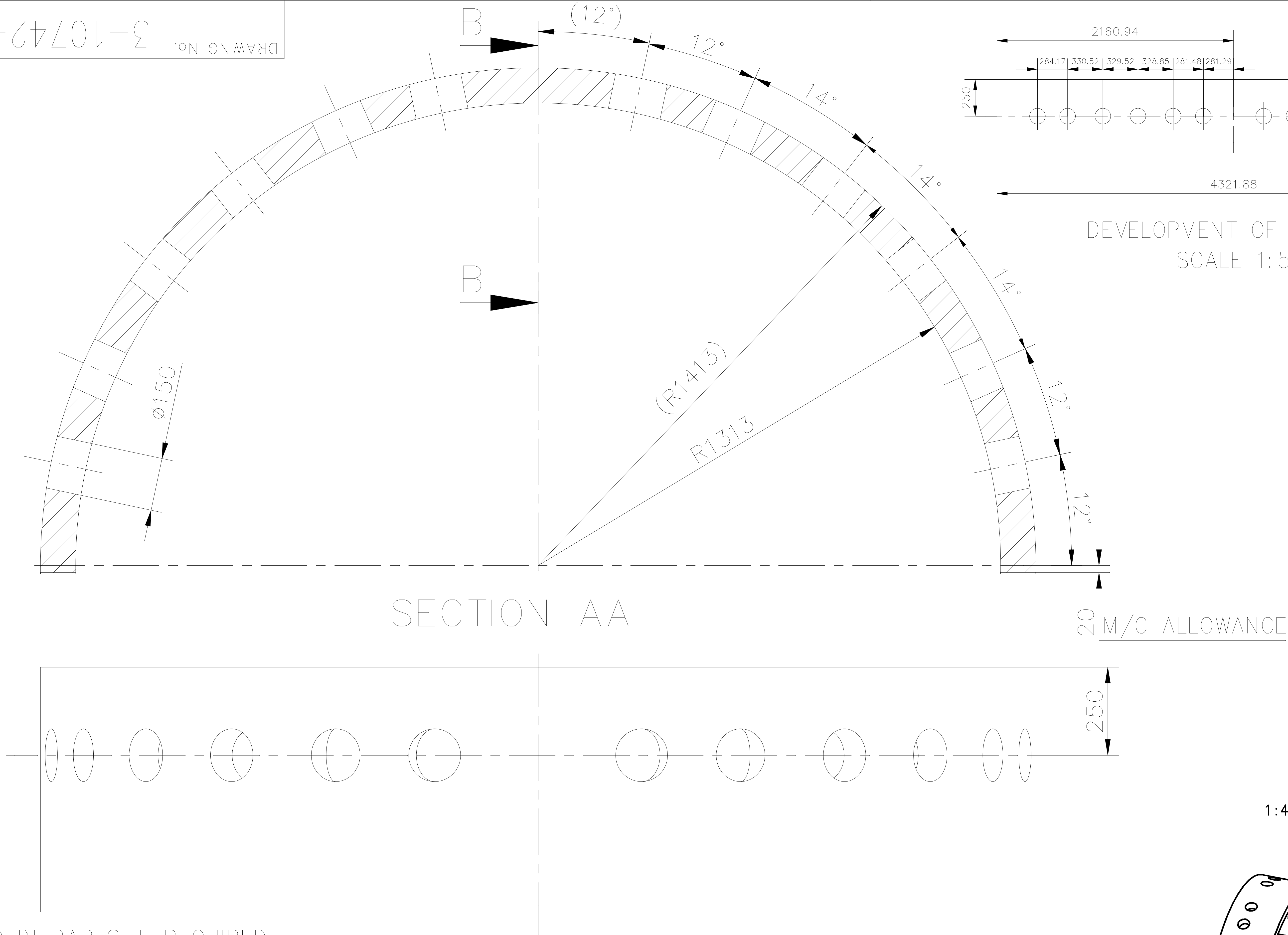
Inventory No.	Sign & Date	Ref.Drawing No> DSPPG-0127023		TIN NO. PSK046L654	

DRAWING No. 3-10742-58108

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)



50/ ALL OVER EXCEPT OTHERWISE STATED

DEVELOPMENT OF HALF RING
SCALE 1:50

CHECK AGAINST
LAMINATION DEFECT

SECTION BB
SCALE 1:10

DETAIL: FULL PENETRATION WELD

WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

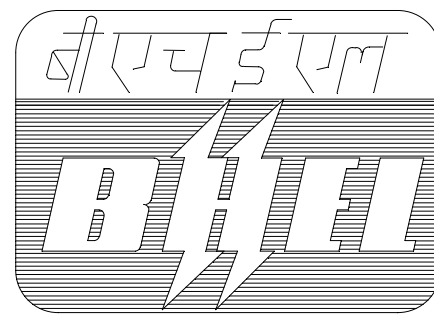
DIVIDED IN PARTS IF REQUIRED.
ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

TECHNICAL REQUIREMENTS: –

- WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
- WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW0400397

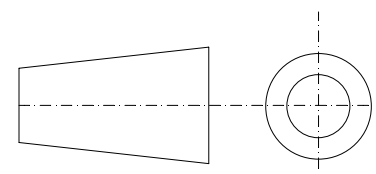
~~GMS No./~~		C B O M		STATUS OF DRG U
9-10742-58000				
AGREED DEPT	NAME	SIGN	DATE	
WT	H. VERMA	Sd/-	28.07.12	

TYPE OF PRODUCT STEAM TURBINE
OR
NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

DEPT STE
CODE 4011



SCALE

1:15

WEIGHT (KG)

2190.00

REF. TO ASSY. DRG.

9-10742-58000

ITEM No.

108

NO. OF ITEMS

75

TITLE :

HALF RING

CARD CODE

DRAWING NO.
3-10742-58108

SHEET No.

1

No. OF SHEETS

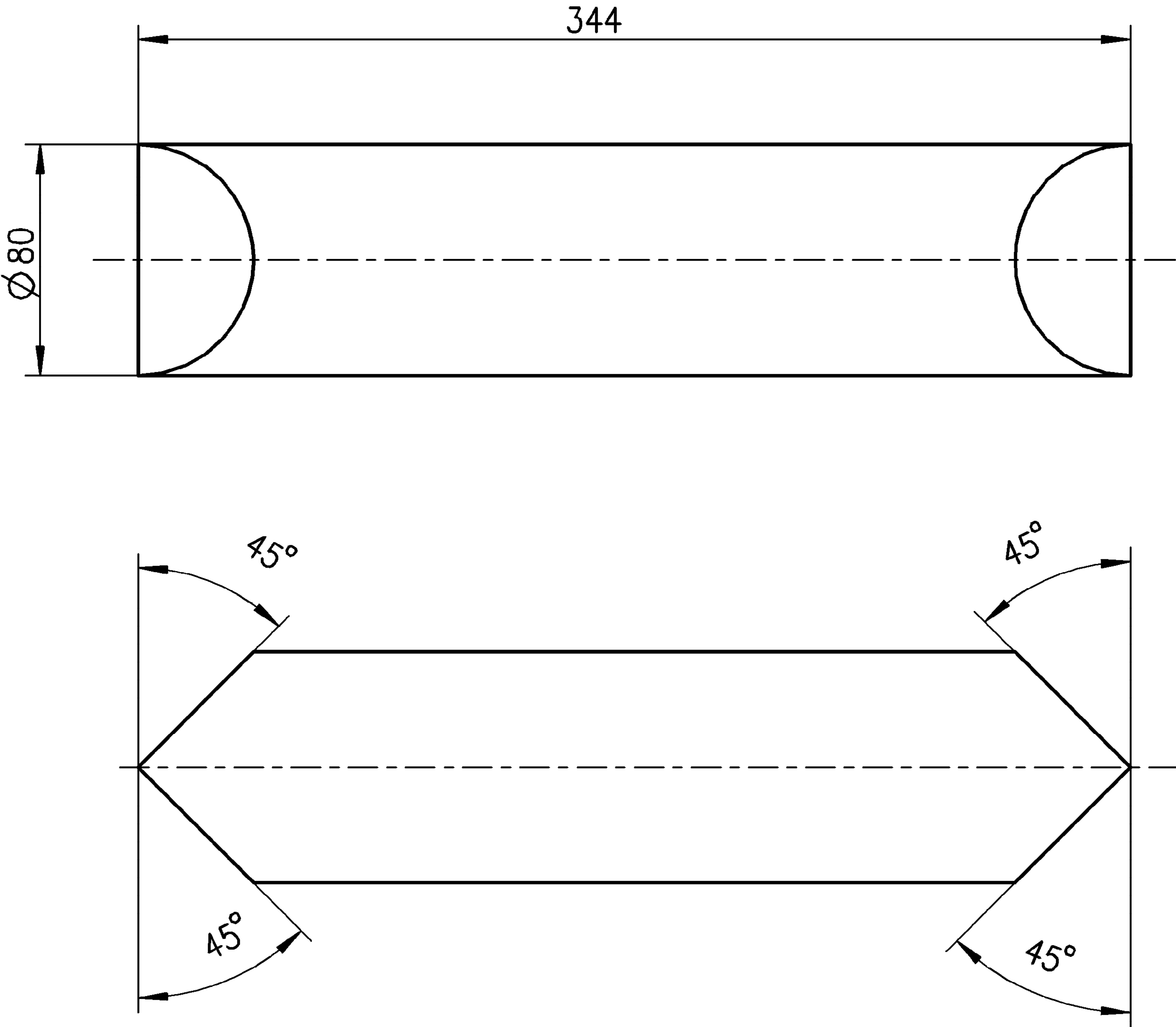
1

SIZE A3

3-10742-58109

DRAWING No.

50 / ALL OVER EXCEPT
OTHERWISE STATED



TECH.REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397.

Sign & Date	Ref.Drawing No> DSPPG-0127025			TIN NO. PSK0461655									
	GMS No./ - C B O M 9-10742-58000			STATUS OF DRG U									
	AGREED DEPT WT			NAME H. VERMA									
	SIGN SD/-			DATE 28.07.12									
Inventory No.	GRADE OF UNTOL.DIM			M/CG.-C/M/F AA0230208									
	WELDING-A/B/C/D / / AA0621104			GAS CUTTING-'T3'AA0621101									
	REV	DATE	ALTERED	REV	DATE	ALTERED							
			CHECKED			CHECKED							
DEPT		STE		SCALE		WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.		NO. OF ITEMS	
CODE		4011		2.5		12.2		9-10742-58000		109,209		75 77	
TITLE :						DRAWING NO.						22 23 24	
ANCHOR						3-10742-58109						No. OF SHEETS 01	
SHEET No.01						No. OF SHEETS 01							

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Ref.Drawing No>
DSPPG-0127027

Sign & Date

Inventory No.

TIN NO.
PSK046L656

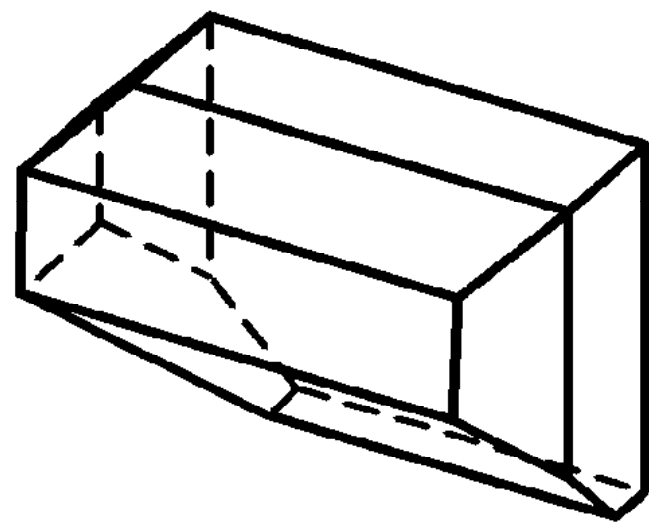
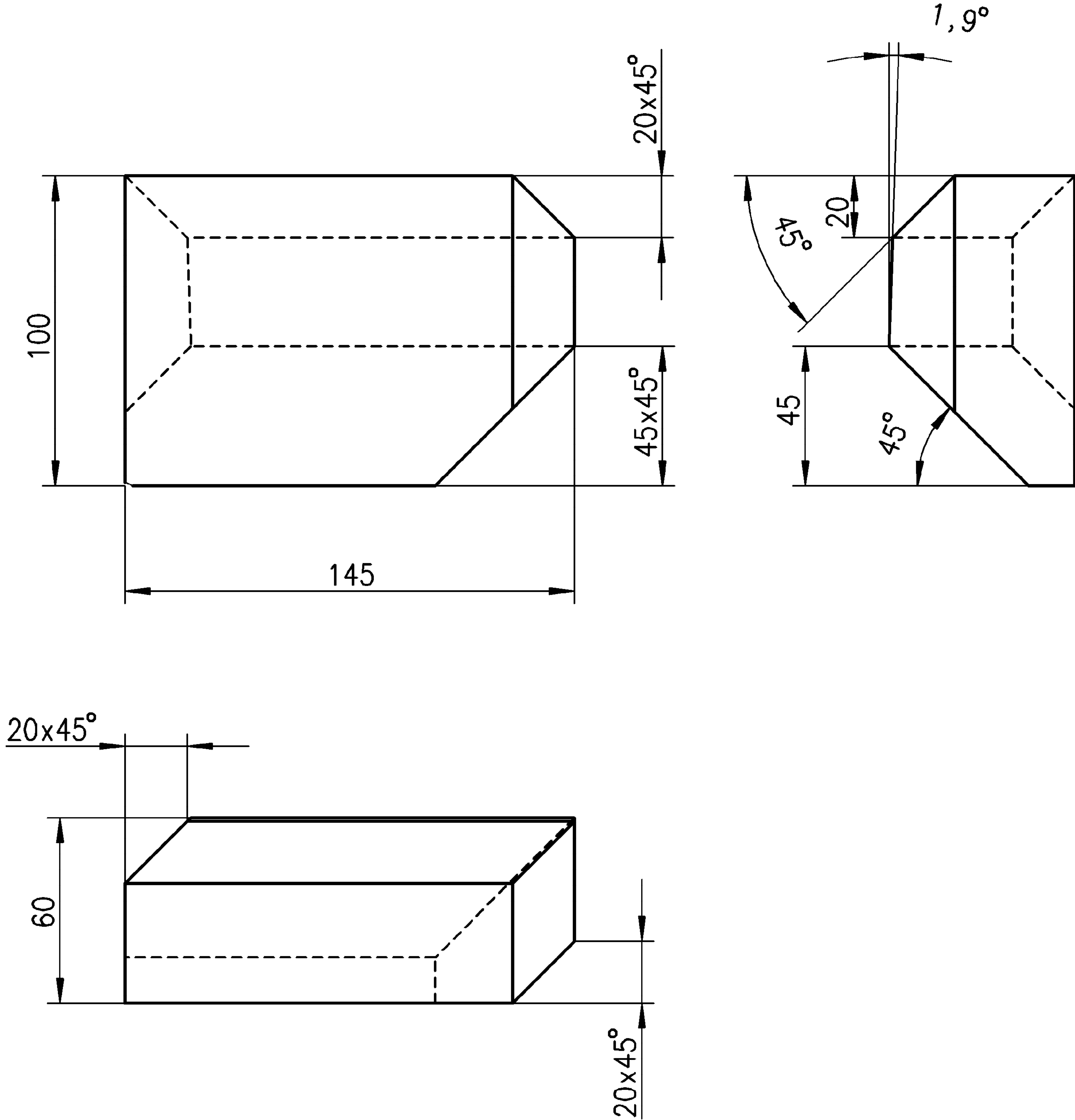
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

3-10742-58110
DRAWING No.

50 / ALL OVER EXCEPT
OTHERWISE STATED



TECH.REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397.

GRADE OF UNTOL.DIM		
M/CG.-C/M/F AA0230208		
WELDING-A/B/C/D / / AA0621104		
GAS CUTTING-'T3'AA0621101		

REV	DATE	ALTERED
		CHECKED

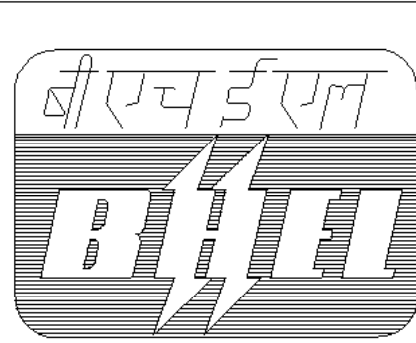
REV	DATE	ALTERED
		CHECKED

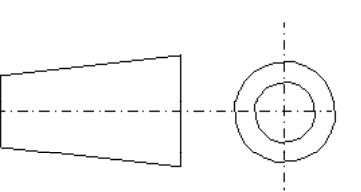
GMS No./ C B O M 9-10742-58000				STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE	
WT	H. VERMA	SD/-	28.07.12	

REV	DATE	ALTERED	MANOJ
01	23.7.15	CHECKED	DINESH

WEIGHT 4.9 CHANGED TO 5.2 KG
C/A NO.STE-15-F0245.

TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT
STEAM TURBINE

	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				NO. OF VAR 73 74
	DRN	NAME POONAM	SIGN SD/-	DATE 28.11.2011	
	CHD	DINESH	SD/-	01.12.2011	
	APPD	D.K.RAY	SD/-	29.07.2012	

DEPT	STE		SCALE 1:5	WEIGHT (KG) 5.2	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 110	NO. OF ITEMS 75 77
CODE	4011						

TITLE : PLATE		CARD CODE 7	DRAWING NO. 3-10742-58110		22 23 24
			SHEET No. 01		
			No. OF SHEETS 01		

SIZE A3

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TIN NO.
PSK046L657

Ref Drawing No>
DSPPG-0127027

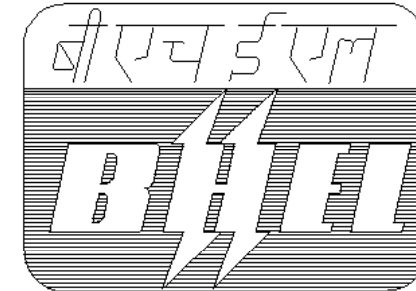
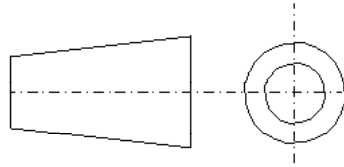
Sign & Date

Inventory No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

GRADE OF UNTOL.DIM
M/CG.-C/M/F AA0230208
WELDING-A/B/C/D / / AA0621104
GAS CUTTING-'T3'AA0621101

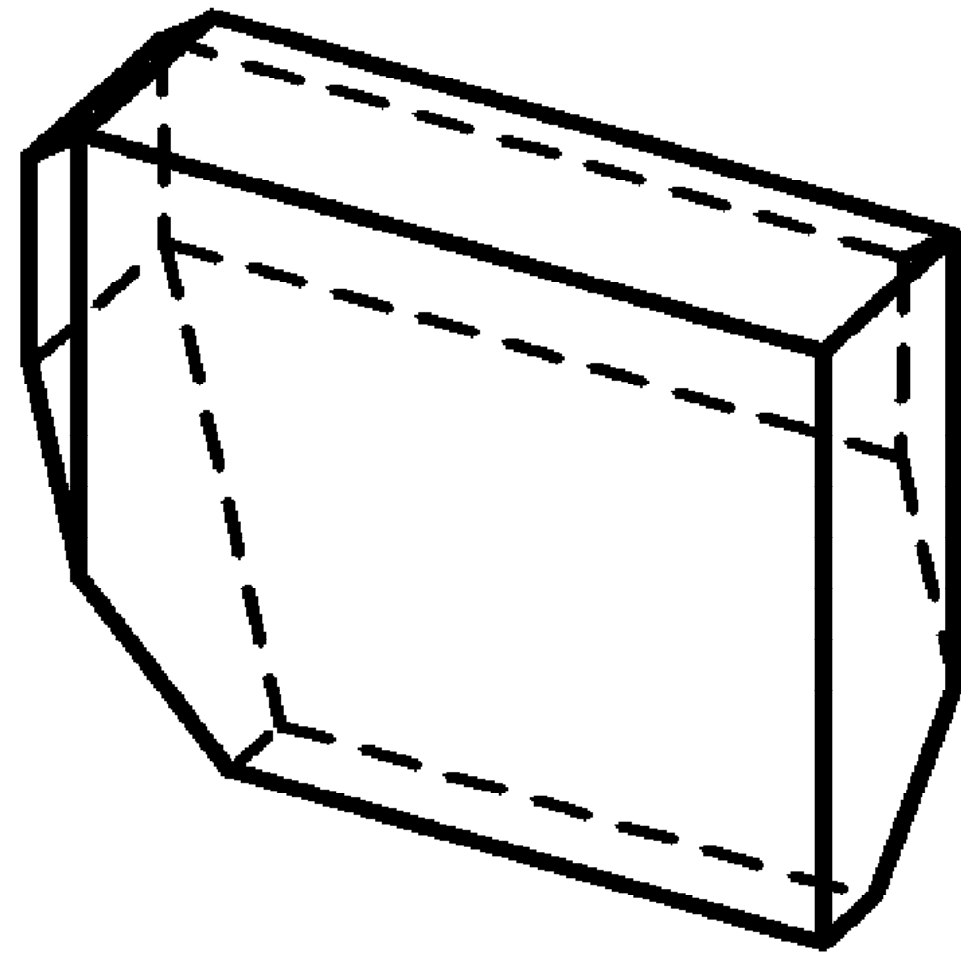
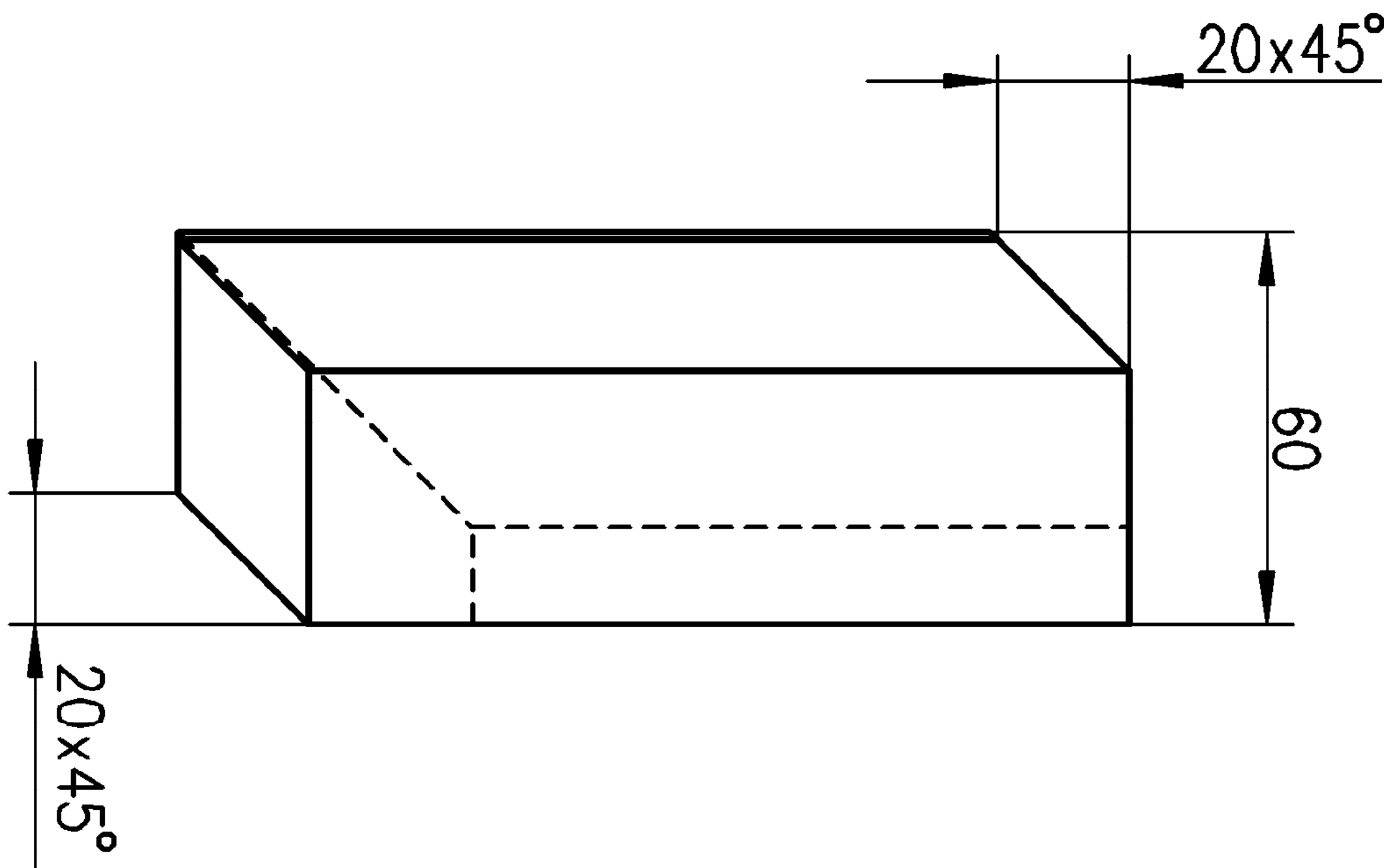
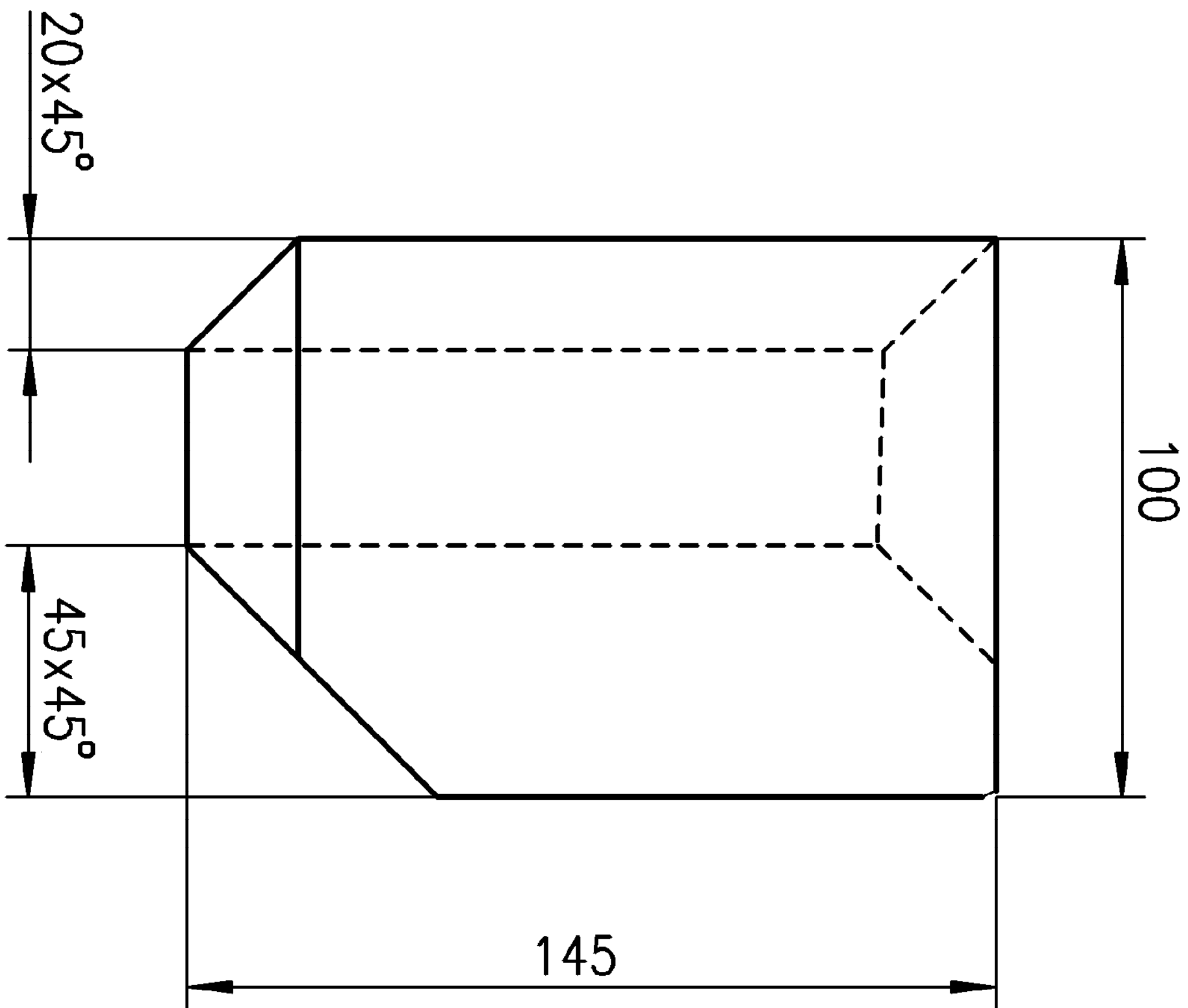
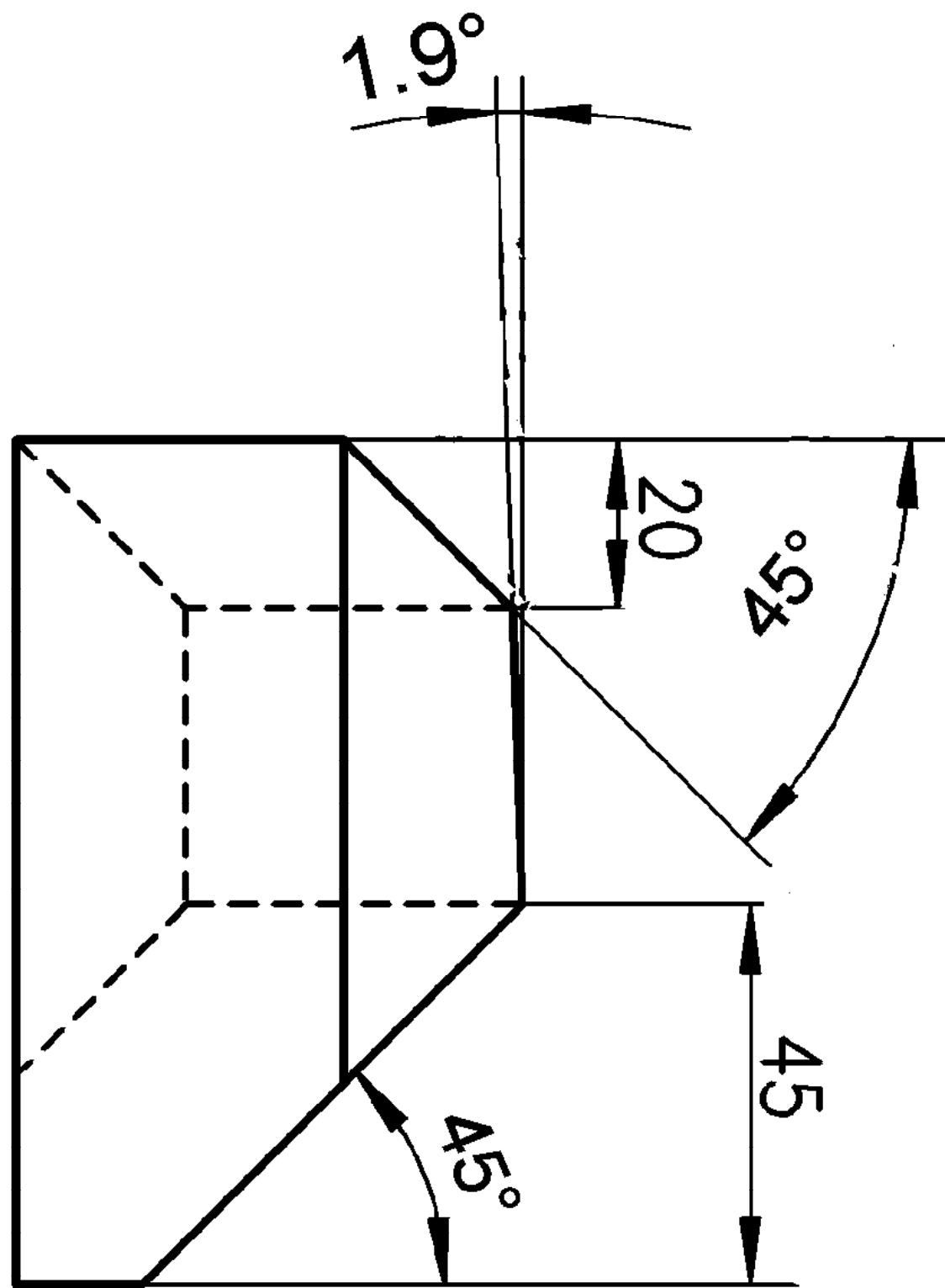
GMS No./ C-B O M 9-10742-58000			STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE					
 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		DRN	NAME POONAM	SIGN SD/-	DATE 28.11.2011	NO. OF VAR —	
		CHD	DINESH	SD/-	01.12.2011		
		APPD	D.K.RAY	SD/-			
DEPT	STE		SCALE 1:5	WEIGHT (KG) 4.9	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 111	NO. OF ITEMS 75 77
CODE	4011		DRAWING NO. 3-10742-58111		22 23 24		
TITLE : PLATE				CARD CODE 7	SHEET No.01		
				No. OF SHEETS 01			

SIZE A3

3-10742-58111

DRAWING No.



TECH.REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397.

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

50 / ALL OVER EXCEPT
OTHERWISE STATED

Inventory No.	Sign & Date	Ref.Drawing No> DSPPG-0127044		TIN NO PSK046L662	

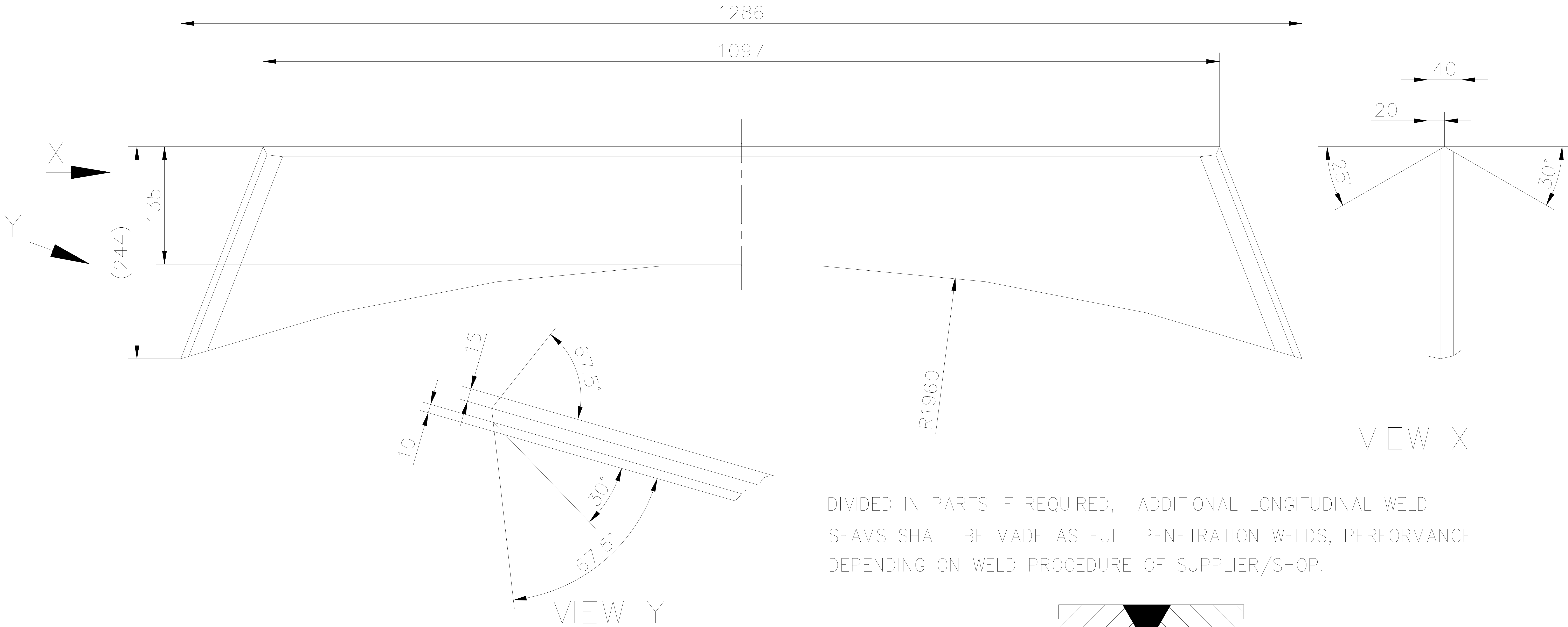
DRAWING No. 3-10742-58124

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

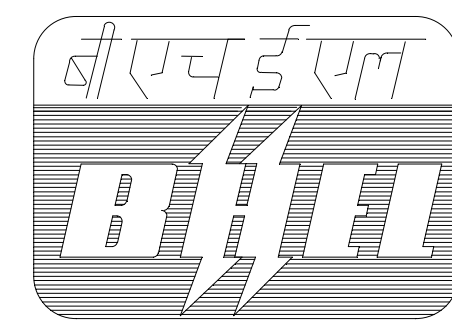
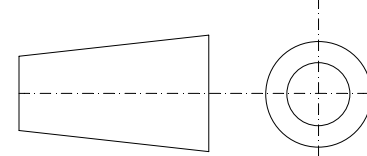
50/ ALL OVER EXCEPT OTHERWISE STATED



TECHNICAL REQUIREMENTS: –

- WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
- WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW0400397

DETAIL: FULL PENETRATION WELD
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

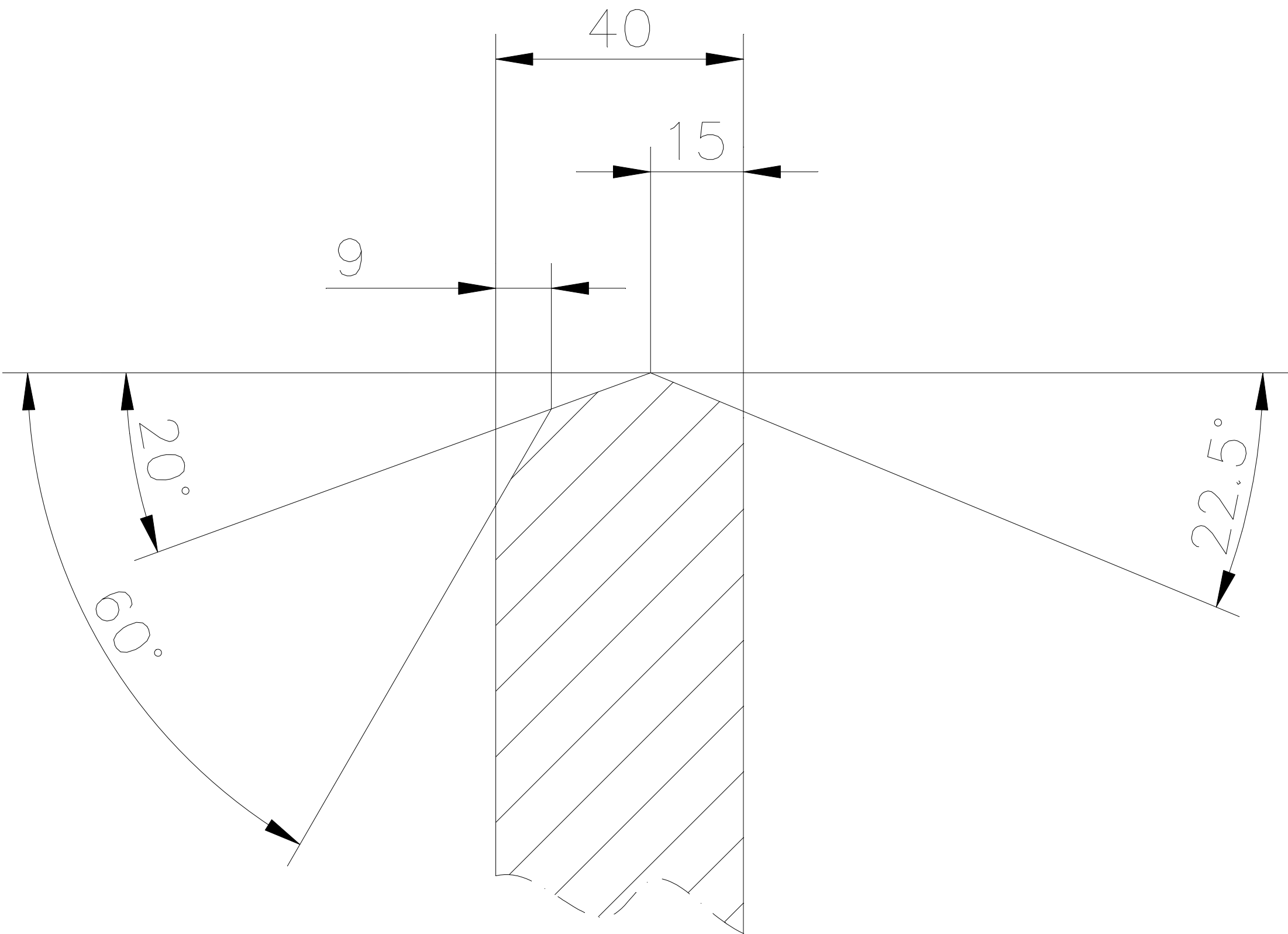
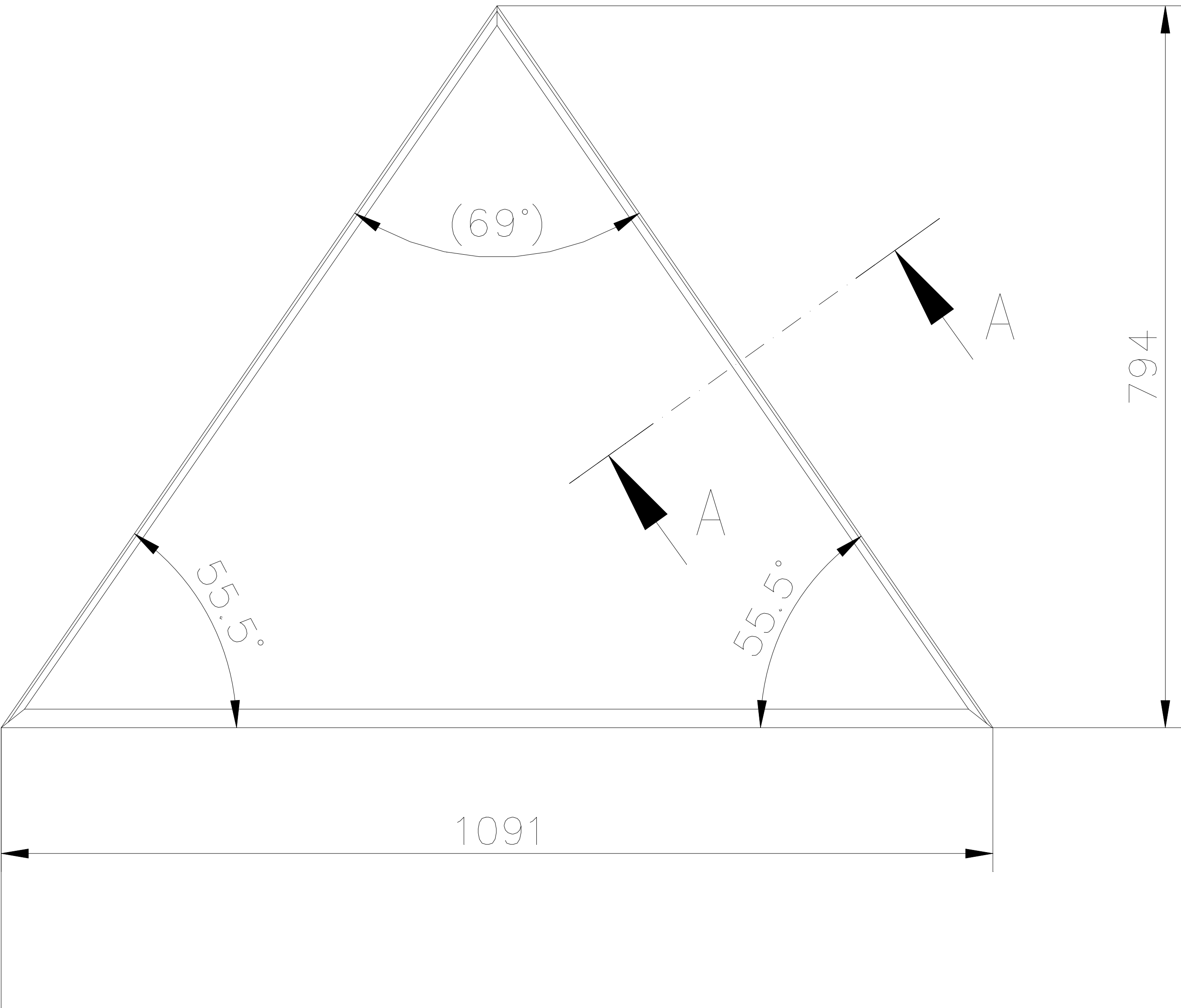
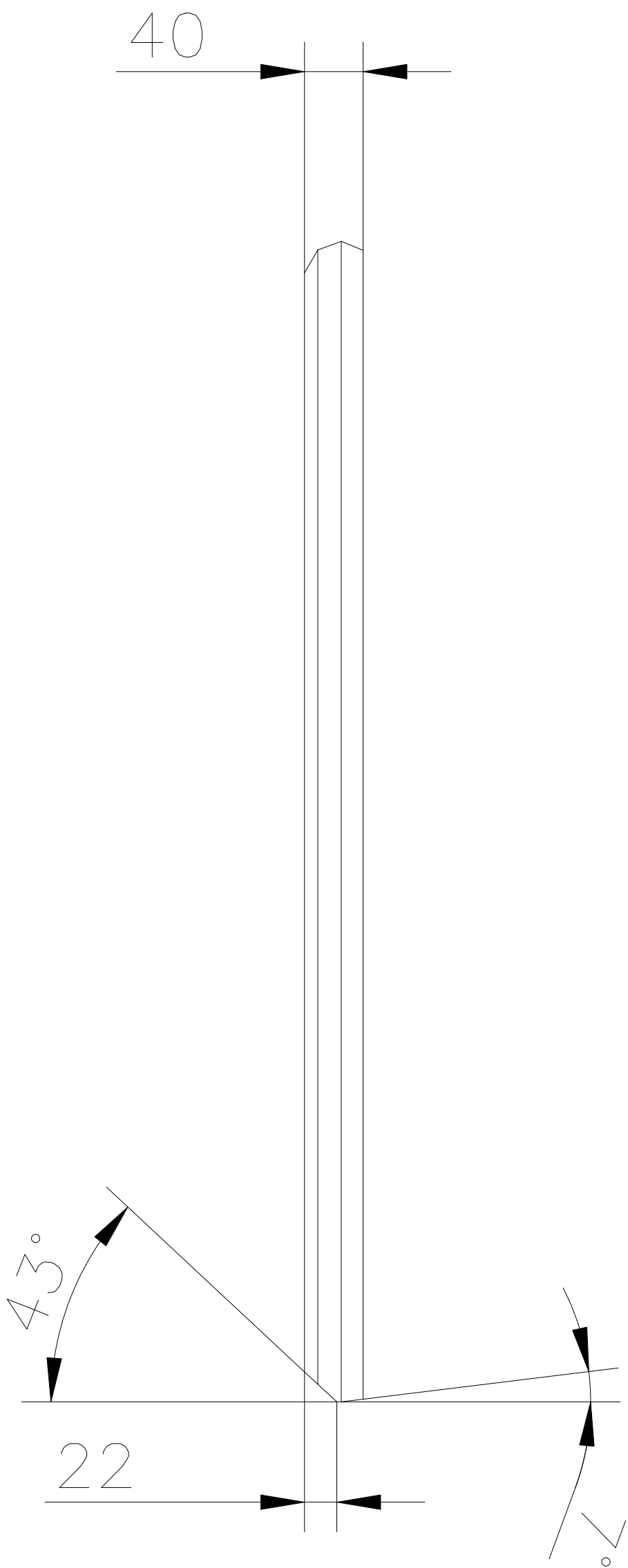
GRADE OF UNTOL. DIM						GMS No./		C B O M		STATUS OF DRG		TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT															
						9-10742-58000		U																			
						AGREED DEPT		NAME		SIGN		DATE		BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR													
						WT		H. VERMA		Sd/-		28.07.12															
M/CG.- AA0230208 m												DRN		NAME POONAM		SIGN Sd/-		DATE 28.11.11		NO. OF VAR							
WELDING-CLASS 'B' OF AA0621104												CHD		DINESH		Sd/-		01.12.11									
GAS CUTTING-TABLE 3 OF AA0621101												APPD		D.K.RAY		Sd/-											
REV		DATE		ALTERED		REV		DATE		ALTERED		MONIKA		DEPT STE				SCALE		WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.		NO. OF ITEMS	
				CHECKED						CHECKED		DINESH		CODE 4011				1:5		59.0		9-10742-58000		124		75 77	
						AS PER C\A NO. STE-13-F0028						TITLE : PLATE						CARD CODE		DRAWING NO.						22 23 24	
																				3-10742-58124							
																		7		SHEET No. 1						No. OF SHEETS 1	

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Inventory No	Sign & Date	Ref. Drawing No> DSPPG-0127045		TIN NO. PSK046L663	

DRAWING No. 3-10742-58125



SECTION AA
SCALE 1: 2

TECHNICAL REQUIREMENT: –

1. IDENTIFICATION ACCORDING TO HW 0400397.

GRADE OF UNTOL. DIM		
M/CG.– AA0230208 m		
WELDING–CLASS ‘B’ OF AA0621104		
GAS CUTTING–TABLE 3 OF AA0621101		

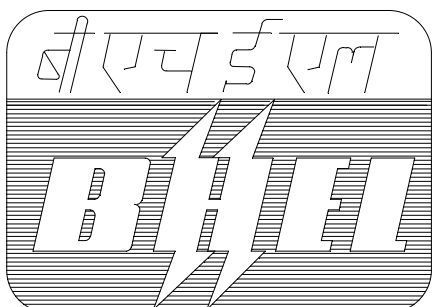
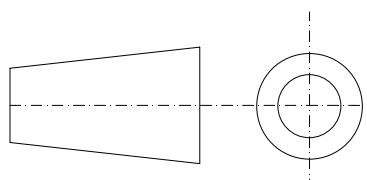
REV	DATE	ALTERED
		CHECKED

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GMS No./ 9-10742-58000		C B O M		STATUS OF DRG
AGREED DEPT	NAME	SIGN	DATE	
WT	H. VERMA	Sd/-	28.07.12	

REV	DATE	ALTERED
		CHECKED

--	--	--

TYPE OF PRODUCT		STEAM TURBINE								
OR		NAME OF CUSTOMER/PROJECT								
		BHARAT HEAVY ELECTRICALS LTD.								
		RANIPUR, HARDWAR				DRN	POONAM	Sd/-	28.11.11	NO. OF VAR
						CHD	DINESH	Sd/-	01.12.11	
						APPD	D.K.RAY	Sd/-		
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.			ITEM No.	NO. OF ITEMS	
CODE	4011		1:10	131.00	9-10742-58000			125		
TITLE :				CARD	DRAWING NO.					
PLATE				CODE	3-10742-58125					
					SHEET No.		1	No. OF SHEETS		1

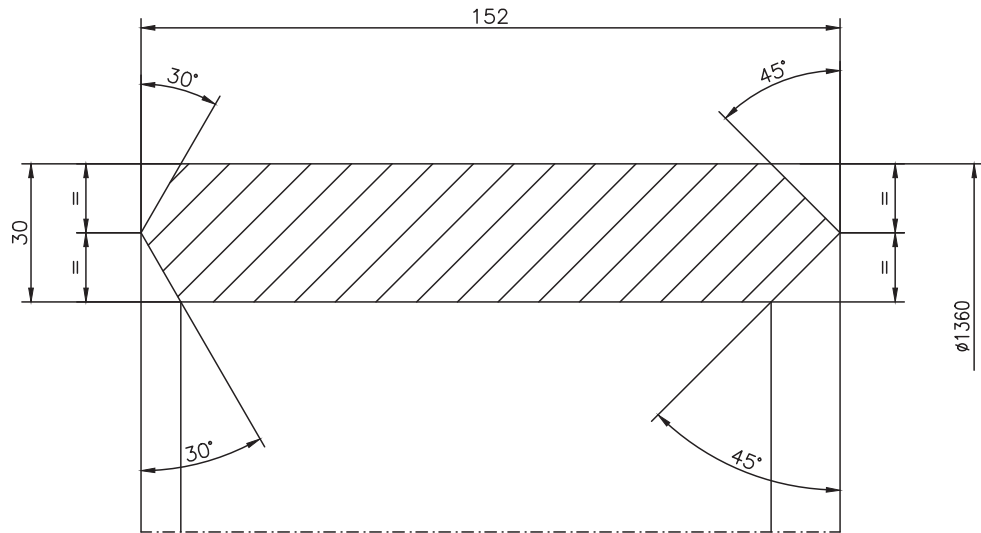
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

3-10742-58151

DRAWING No.

50/ ALL OVER EXCEPT
OTHERWISE STATED

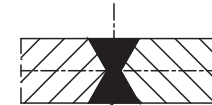
DIVIDED IN PARTS IF REQUIRED.

ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

TECHNICAL REQUIREMENTS:-

1. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
2. WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
3. IDENTIFICATION ACCORDING TO HW0400397

DETAIL: FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

Inventory No.	Sign & Date	Ref. Drawing No. DSPPG-0127059	TIN NO. PSK0461667	GMS No. 9-10742-58000 C B O M				STATUS OF DRG		TYPE OF PRODUCT		STEAM TURBINE			
				GRADE OF UNTOL. DIM				WT		H. VERMA		Sd/-		28.07.12	
				M/CG.- AA0230208 m											
				WELDING-CLASS 'B' OF AA0621104											
GAS CUTTING-TABLE 3 OF AA0621101															
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
		CHECKED			CHECKED			CHECKED	4011		1:1	148.00	9-10742-58000	151	75 77
TITLE :									PIPE			CARD CODE		DRAWING NO.	
												3-10742-58151		22 23 24	
												SHEET No. 1		No. OF SHEETS 2	

SIZE A3

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Inventory No	Sign & Date			Ref.Drawing No> DSPPG-127059		TIN NO. PSK046L667	

FIRST ANGLE PROJECTION												(ALL DIMENSIONS ARE IN mm)												FORM DG 38(B)																							
DRAWING No. 3-10742-58151																																															
DEVELOPMENT OF PIPE												4174.04 152																																			
												AGREED DEPT WT NAME H. VERMA SIGN -SD/- DATE 28.07.12												TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT																							
												GRADE OF UNTOL.DIM M/CG.-Ø/M/F AA0230208 WELDING-~~A~~/B/~~Ø~~/Ø AA0621104 GAS CUTTING-'T3'AA0621101 DEPT STE CODE 4011 TITLE : PIPE												NAME AFZAL KHAN SIGN -SD/- DATE 02.08.2012 DRN CHD APPD DINESH D.K.RAY -SD/- NO. OF VAR 73 74																							
												REF. TO ASSY. DRG. 9-10742-58000 ITEM No. 231 NO. OF ITEMS 75 77												DRAWING NO. 3-10742-58151 22 23 24 SHEET No. 02 No. OF SHEETS 02																							

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Inventory No.	Sign & Date	Ref.Drawing No>		TIN NO	
		DSPPG-0127062		PSK046L669	

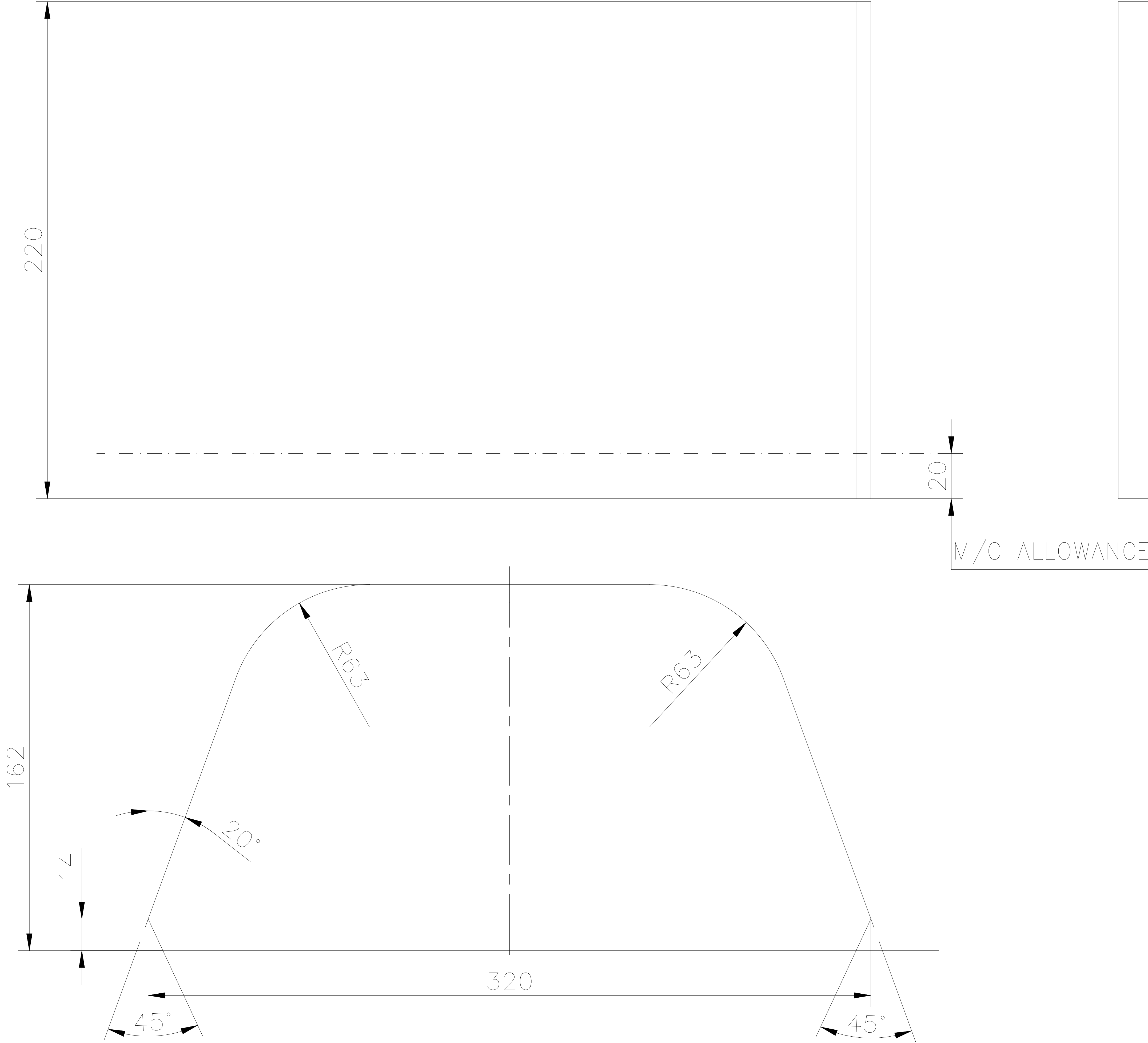
DRAWING No. 3-10742-58157

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

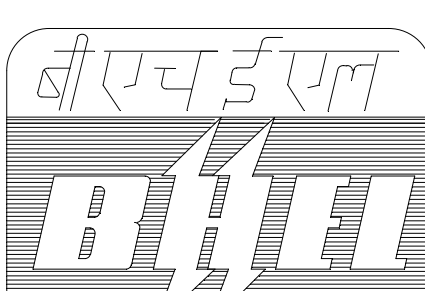
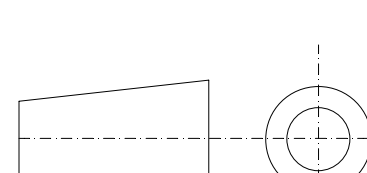
FORM DG 38(B)

50/ ALL OVER EXCEPT OTHERWISE STATED

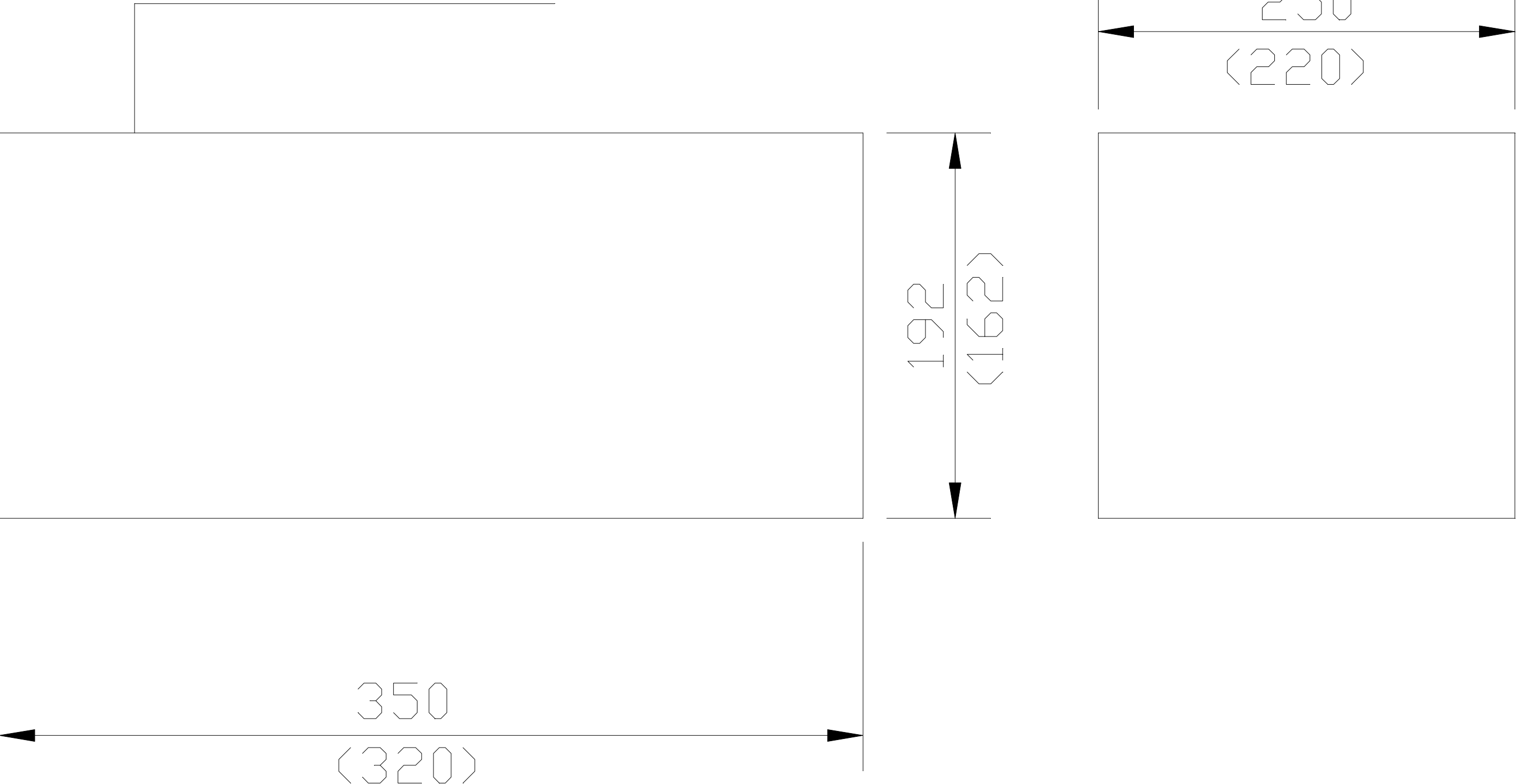


TECHNICAL REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397

				GMS No. / C B O M 9-10742-58000				STATUS OF DRG U				TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT																	
GRADE OF UNTOL. DIM				AGREED DEPT		NAME		SIGN		DATE		बीएचईएल  BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR																	
M/CG.- AA0230208 m				WT		H. VERMA		Sd/-		28.07.12																			
WELDING-CLASS 'B' OF AA0621104																													
GAS CUTTING-TABLE 3 OF AA0621101																													
REV 02		DATE 30.01.15		ALTERED		MANOJ		REV 01		DATE 16.01.13		ALTERED		MONIKA		DEPT STE				SCALE 1: 2.5		WEIGHT (KG) 74.5		REF. TO ASSY. DRG. 9-10742-58000		ITEM No. 157 257		NO. OF ITEMS 75 77	
				CHECKED		DINESH						CHECKED		DINESH		CODE 4011										DRAWING NO. 3-10742-58157			
T.R-2 & MACHNINIG 12.5 DELETED.						AS PER C\A NO. STE-13-F0028						TITLE : JOINT FLANGE						CARD CODE											
C\A NO. STE-15-F0034.																						SHEET No. 1		No. OF SHEETS 1					

SIZE A3

SUPERSEDES	SIGN. & DATE	INVENTORY NO.		TECHNOLOGICAL CHART OF FORGING & HOT STAMPING		TECHNOLOGY NO.	VAR.	TYPE OF PRODUCT		NO./PRO.	NO./FRG.	DESCRIPTION		DRAWING NO.		VAR.	REV.						
						31074258157F	00	STE		01	01	JOINT FLANGE		31074258157		00							
	IDENTIFICATION MARK  < DIMENSION IN BRACKETS ARE FINISHED MACHINED >								WEIGHT IN KG.	FINISHED				COEFFICIENT OF UTILIZATION OF MAT	GRADE OF MAT./MAT.SPC.		GR. SPN./GMS NO.		VAR.	REV.			
										NORM.CON.		155 Kg			0.90		HW10556		91074232000		00		
									BLANK	WEIGHT		145 Kg		ROUTE		072-356-359-236							
										CROSS SECTION		250 MM		BLANK/CALCULATION		KG.	%	REMARKS/NOTES					
										MAT.CODE.		HW1055276025		FORGING.		145	90	1. ONE FORGING EXTRA TO BE FORGED FOR MECH. TESTING PER BATCH OF HEAT TREATMENT					
										LENGTH		316 MM		DISCARDS.		0	0						
	REQUIREMENT	TECH. SPECIAL			SCALE.		10	10															
					CROPPING		-	-															
AA19341			TOTAL IN KG.		145	100%																	
OPERATIONAL SKETCH				SL.NO.	OPERATION				EQUIPMENT	TOOLING	HEATING TEMPE-RATURE FOR FORGING MAX.	FINISH TEMP. FOR FORGING MIN.											
					1. INSPECT THE BLANK DIM. CHECK BY OPERATOR 2. HEAT THE BLANK 3. FORGE THE BLANK (I) ROUND THE CORNERS AND UPSET TO REQUIRED HEIGHT (II) PUNCH A HOLE Ø 00 FROM THE BOTH ENDS				FURNACE HAMMER 3 T	SCALE SCALE	1200 °C	850 °C											
					4. REHEAT THE BLANK 5. FORGE THE BLANK 6. FINISH THE FORGING 7. HEAT TREAT THE FORGING MARK THE FORGING 8. 1>DIMENSIONAL INSPECTION BY QC. 2>INSPn OF FORGING BY QC AS PER TECH SPEC. 9. RECORD THE OPERATION AND QUALITY CHECKS IN THE FORMAT NO. QC-126.				FURNACE HAMMER 3 T FURNACE PUNCH & HAMMER	PUNCH Ø100 MET 0474 SCALE SCALE	1200 °C	850 °C											
MARKING		DRG.NO., FORGING NO.																					
BLANK HEATING TIME		1 TO 1.5 HR./100mm RULING SECTION																					
FORGING TO BE COOLED																							
HEAT - TREATMENT		AS PER HW 0640599																					
SIGN. & DATE	INVENTORY NO.																						
CHG.NO.		DOCU.NO.		NAME		SIGN.		DATE															
WORKED BY		RAJPAL		Sd/-		01.08.23																	
CHECKED BY		SUBODH		Sd/-		01.08.23																	
SUPERVISED		ASHISH		Sd/-		01.08.23																	
HEATTREAT-MENT																							
TECHNOLOGIST																							
APPROVED		ASHISH		Sd/-		01.08.23																	
MTE		DEPARTMENT CODE																					
		4300																					
SHEET NO.		1 TTL.SH. NO. 1																					

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Inventory No.	Sign & Date	Ref.Drawing No> DSPPG-0127030		TIN NO. PSK0461673	

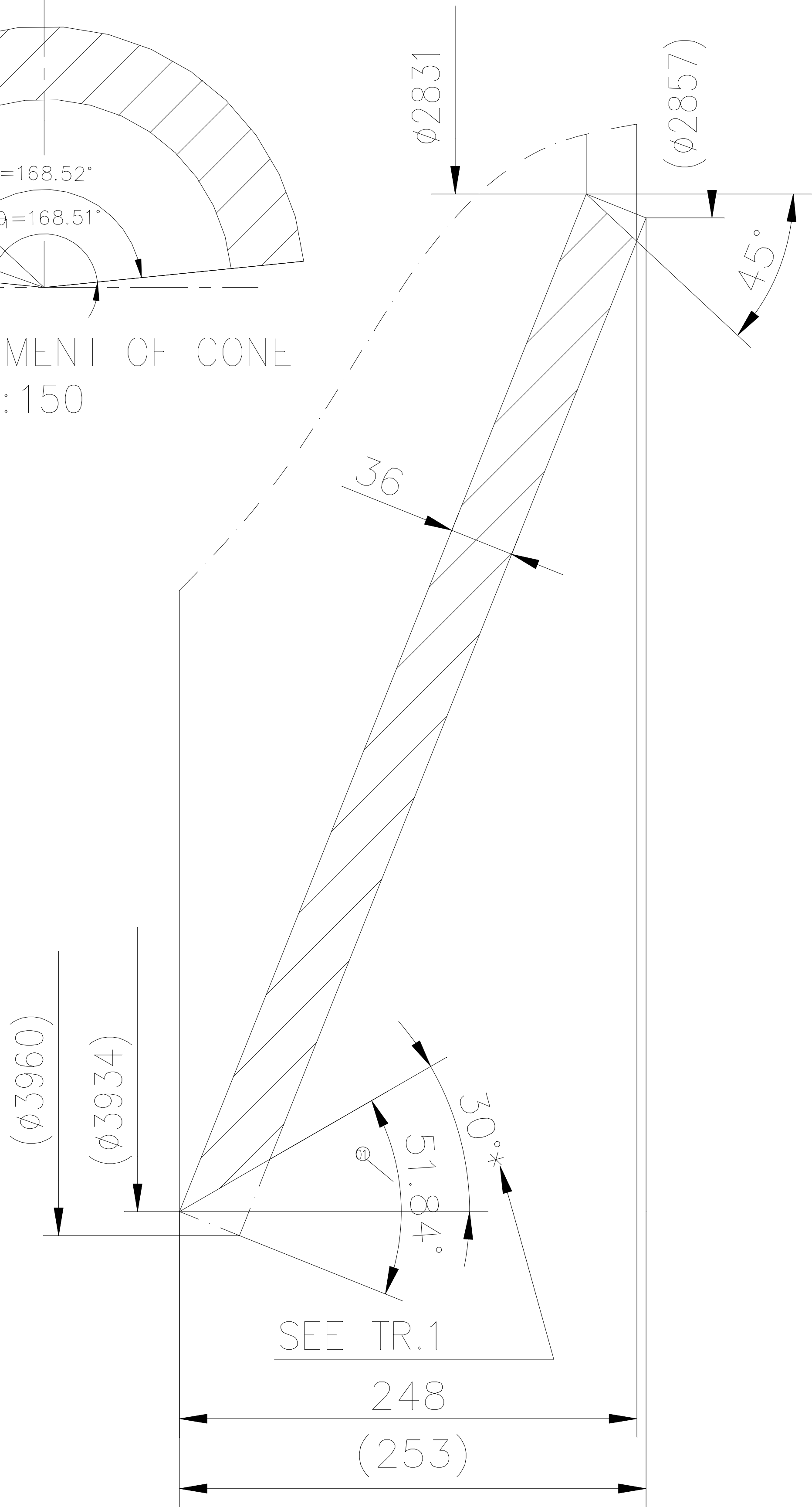
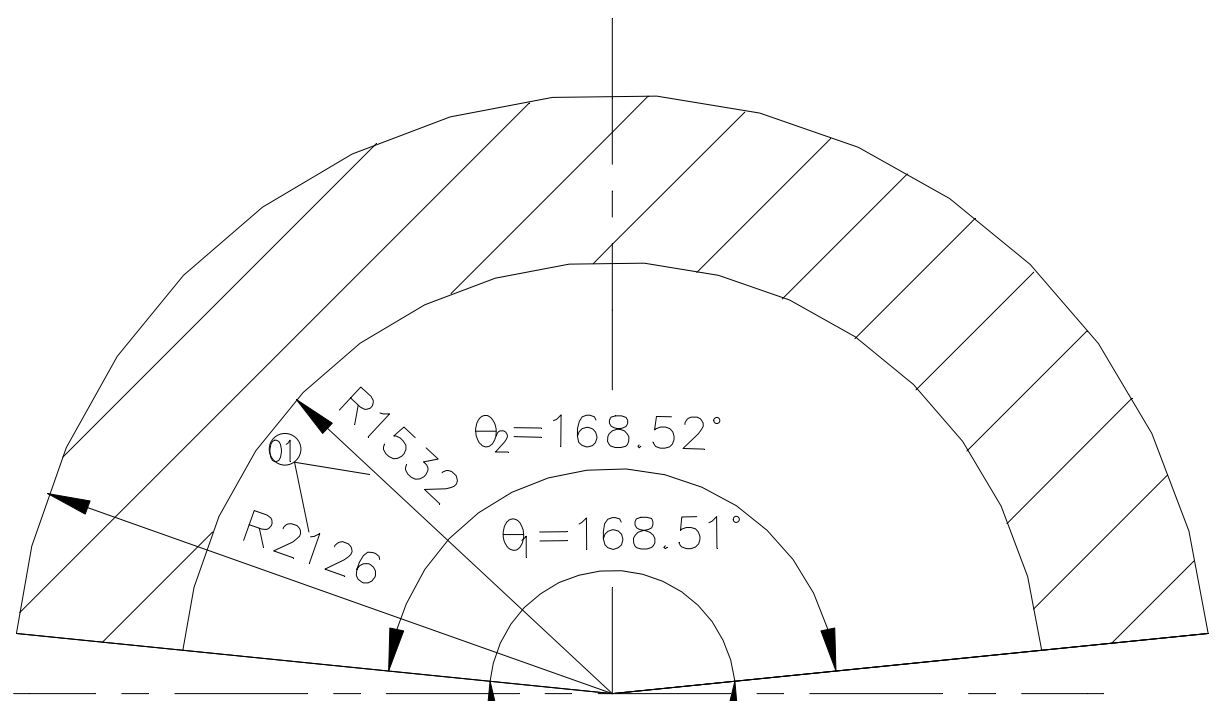
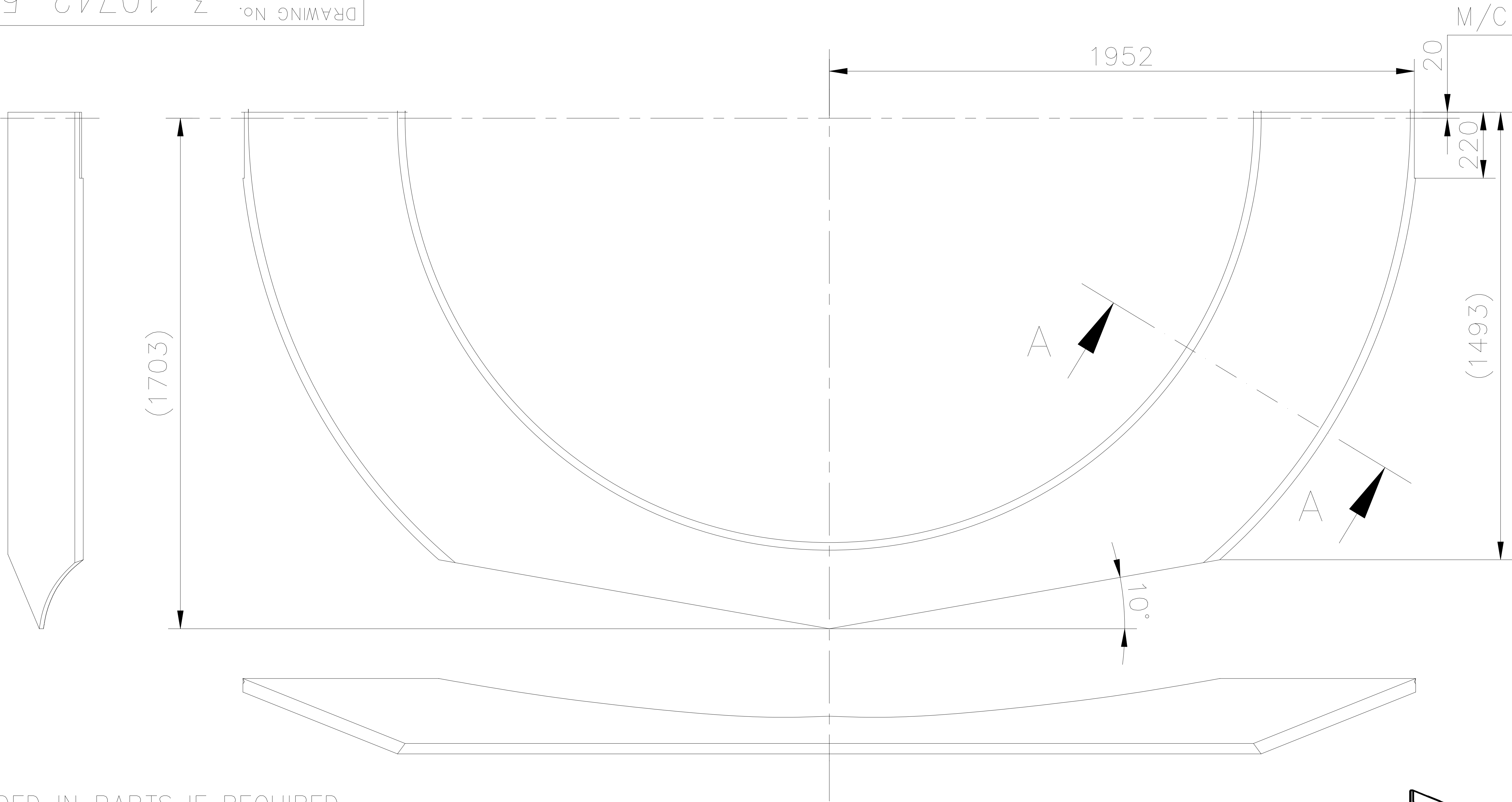
DRAWING No. 3-10742-58212

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

50/ ALL OVER EXCEPT OTHERWISE STATED

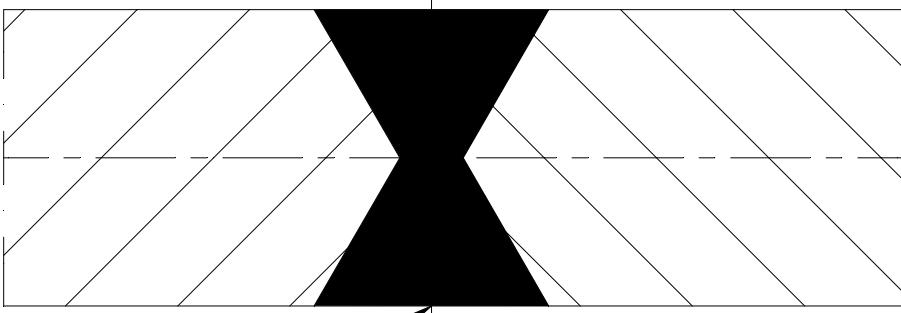


- DIVIDED IN PARTS IF REQUIRED.
- ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
- PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

TECHNICAL REQUIREMENTS: —

- ”*” IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9692-1.THE DRAWING REQUIREMENTS (E.G. WELD QUALITY, FULL PENETRATION, BUTT WELD,FILLET WELD) MUST BE CONSIDERED.
- WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
- WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
- IDENTIFICATION ACCORDING TO HW0400397

DETAIL:
FULL PENETRATION WELD



WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

1:40

SECTION AA
SCALE 1:5

GRADE OF UNTOL. DIM			GMS No. / C B O M 9-10742 58000				STATUS OF DRG U	TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			AGREED DEPT WT	NAME H. VERMA		SIGN Sd/-	DATE 28.07.12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

SIZE A3

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TIN NO.
PSK046L678

Ref Drawing No>
DSPPG-0127035

Sign & Date

Inventory No.

FIRST ANGLE PROJECTION

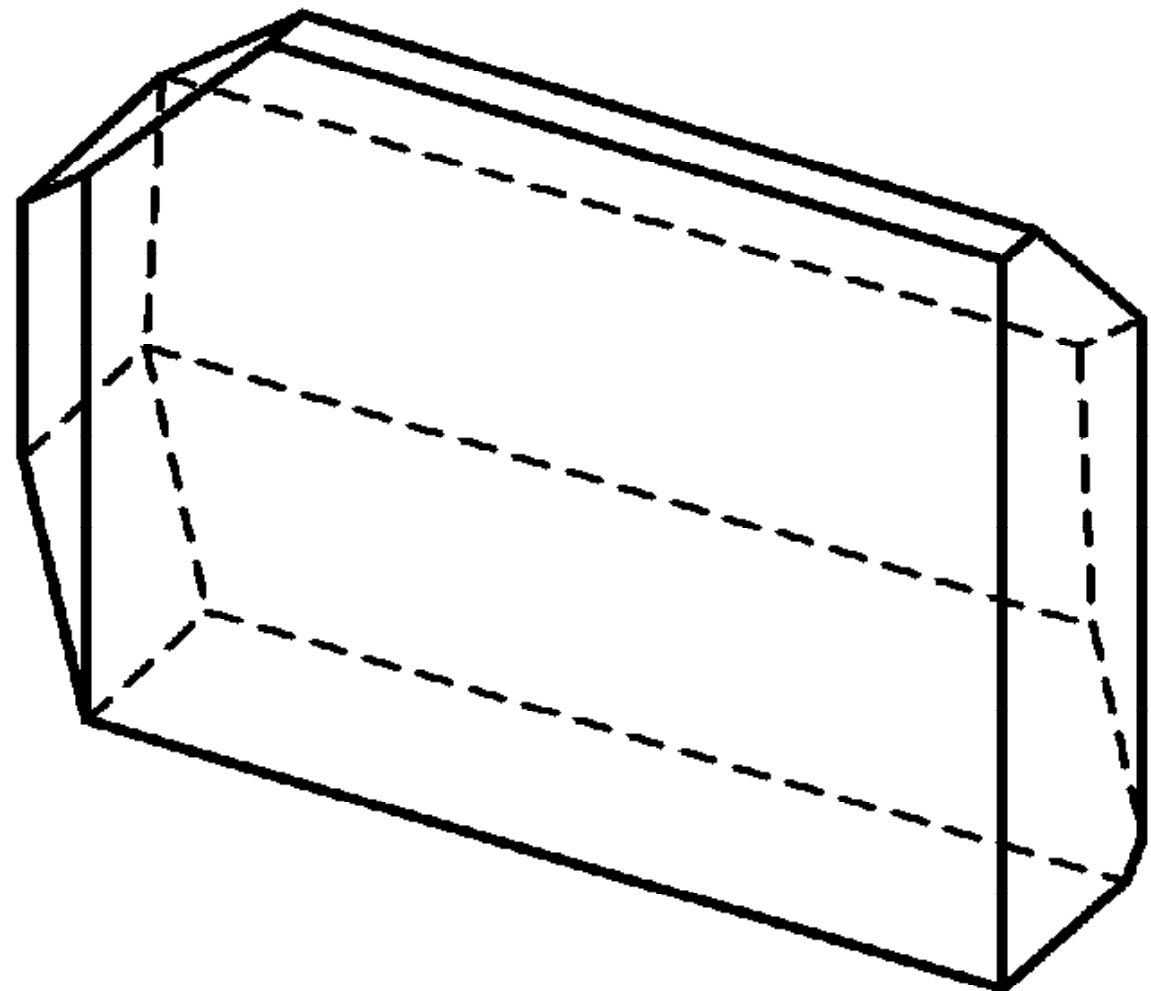
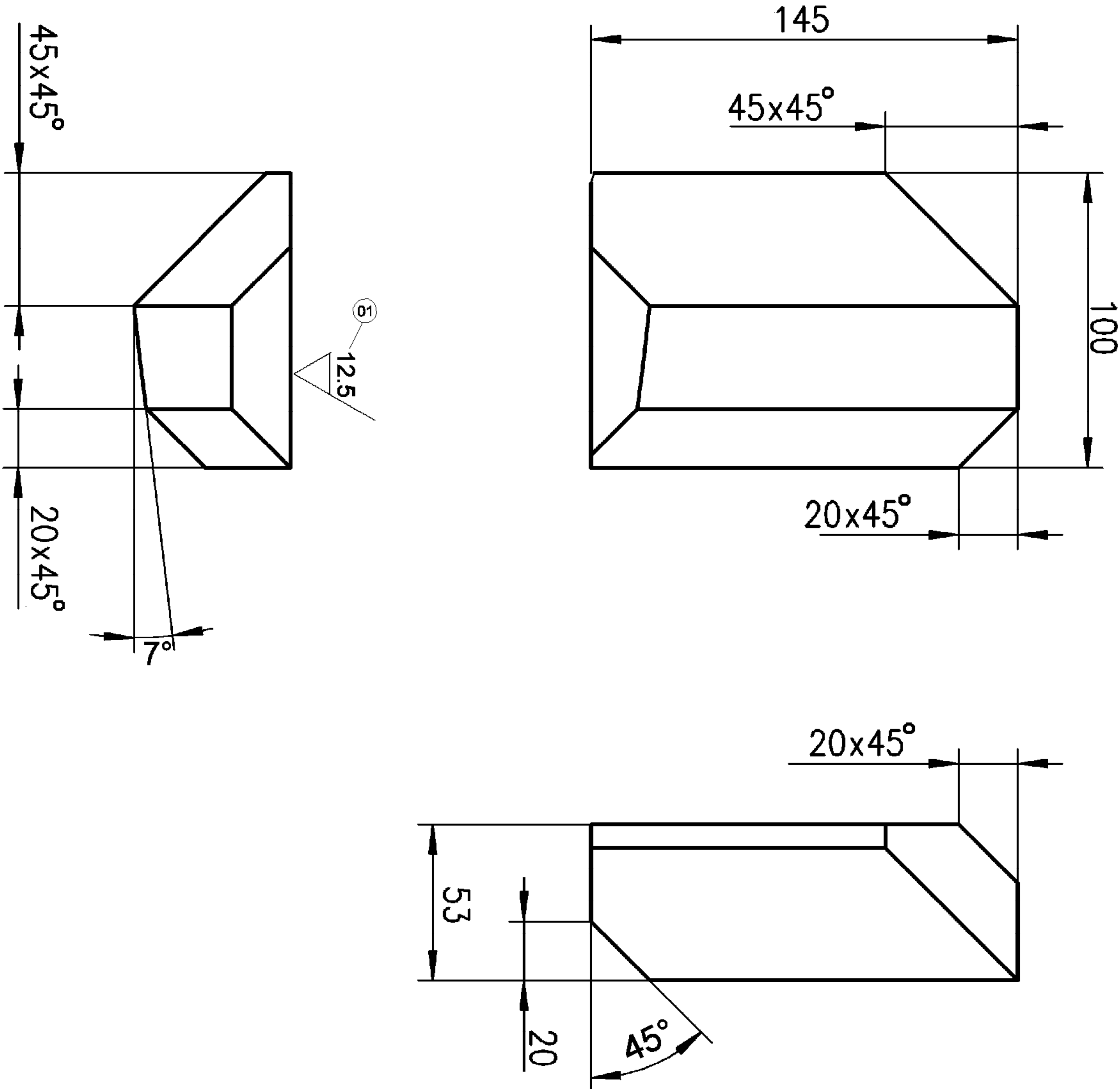
(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

3-10742-58218

DRAWING No.

50 / ALL OVER EXCEPT OTHERWISE STATED



TECH.REQUIREMENT:-

1. IDENTIFICATION ACCORDING TO HW 0400397.

GMS No./ C B O M 9-10742-58000				STATUS OF DRG U		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
AGREED DEPT		NAME		SIGN		DATE		NAME		SIGN		DATE		NO. OF VAR	
WT		H. VERMA		SD/-		28.07.12		DRN		POONAM		1-12-2011		73 74	
								CHD		DINESH		2-12-2011			
								APPD		D.K.RAY		29.07.2012			
GRADE OF UNTOL.DIM				DEPT		STE		SCALE		WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.	
M/CG.-C/M/F AA0230208				01		16.01.13		1:2.5		4.8		9-10742-58000		218	
WELDING-A/B/C/D / / AA0621104				CHECKED		DINESH								75 77	
GAS CUTTING-'T3'AA0621101				AS PER		C/A NO. STE-15-F0245.		TITLE :		CARD CODE		DRAWING NO.		22 23 24	
REV 02 DATE 23.7.15 ALTERED MANOJ DINESH				AS PER		C/A NO. STE-13-F0028		PLATE		7		SHEET No. 01		No. OF SHEETS 01	
REV 01 DATE 16.01.13 ALTERED MONIKA DINESH															
WEIGHT 4.1 CHANGED TO 4.8 KG															
C/A NO. STE-15-F0245.															

SIZE A3

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TIN NO. PSK046L679	Ref Drawing No> DSPPG-0127035	Sign & Date	Inventory No.
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3-10742-58219

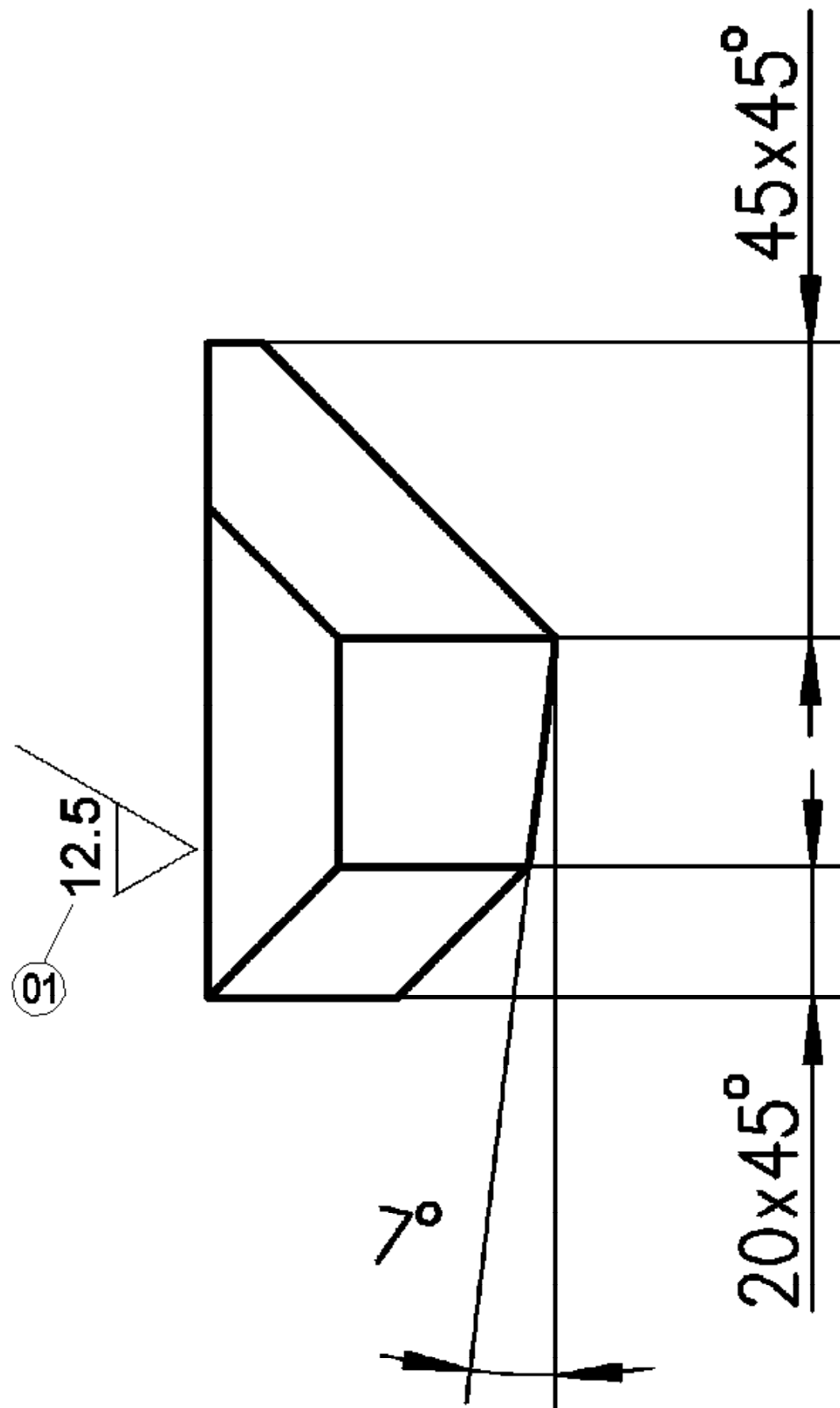
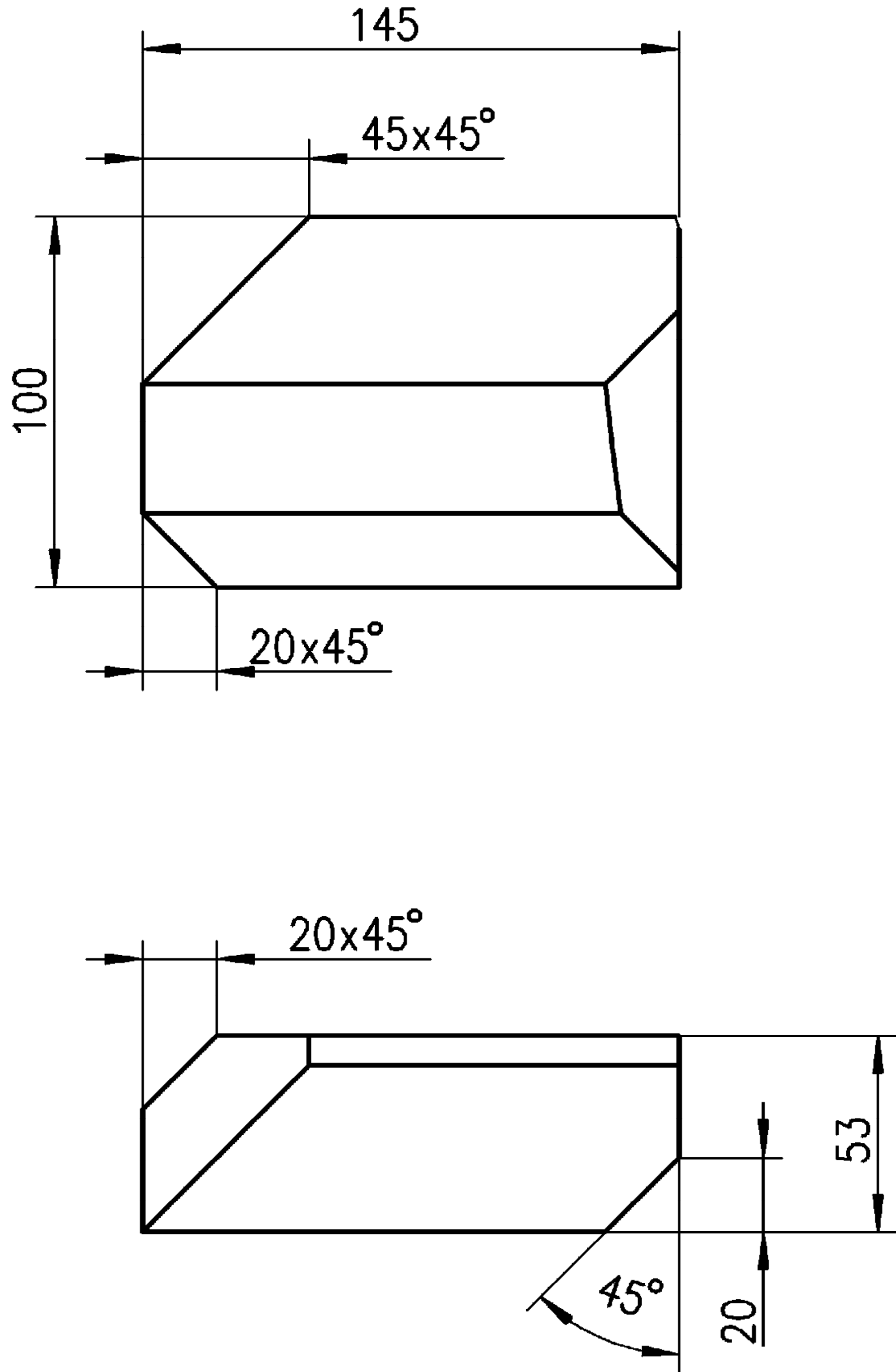
DRAWING No.

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

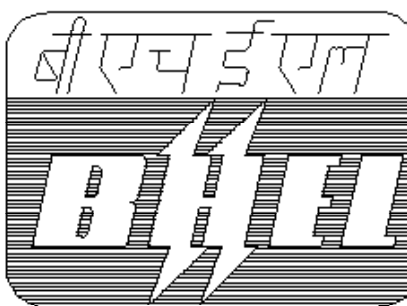
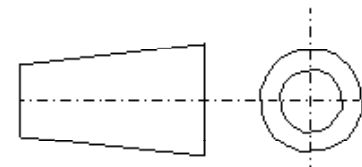
50 / ALL OVER EXCEPT OTHERWISE STATED



TECH.REQUIREMENT:-

1. IDENTIFICATION ACCORDING TO HW 0400397.

GMS No./ C B O M 9-10742-58000				STATUS OF DRG U	
AGREED DEPT	NAME	SIGN	DATE		
WT	H. VERMA	SD/-	28.07.12		
REV 01	DATE 16.01.13	ALTERED CHECKED	MONIKA DINESH		
AS PER CVA NO. STE-13-F0028					

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			STEAM TURBINE					
	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			NAME	SIGN	DATE	NO. OF VAR ____ 73 74	
			DRN	POONAM	-SD/-	1-12-2011		
			CHD	DINESH	-SD/-	2-12-2011		
			APPD	D.K.RAY	-SD/-			
DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	NO. OF ITEMS
CODE	4011		1:2.5	4.1	9-10742-58000		219	____ 75 77
TITLE : PLATE			CARD CODE	DRAWING NO.				____ 22 23 24
				3-10742-58219				
				7				
			SHEET No. 01		No. OF SHEETS 01			

SIZE A3

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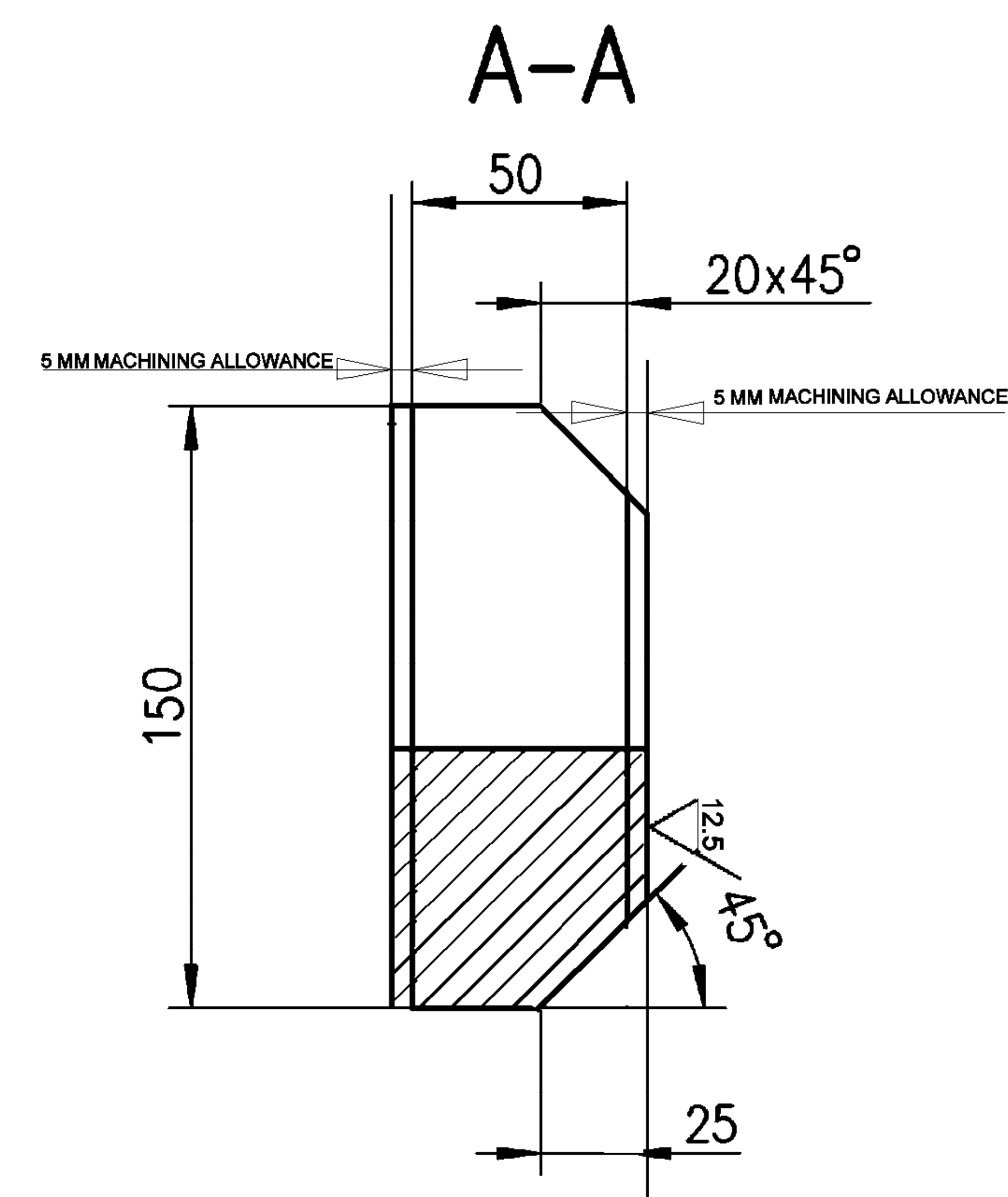
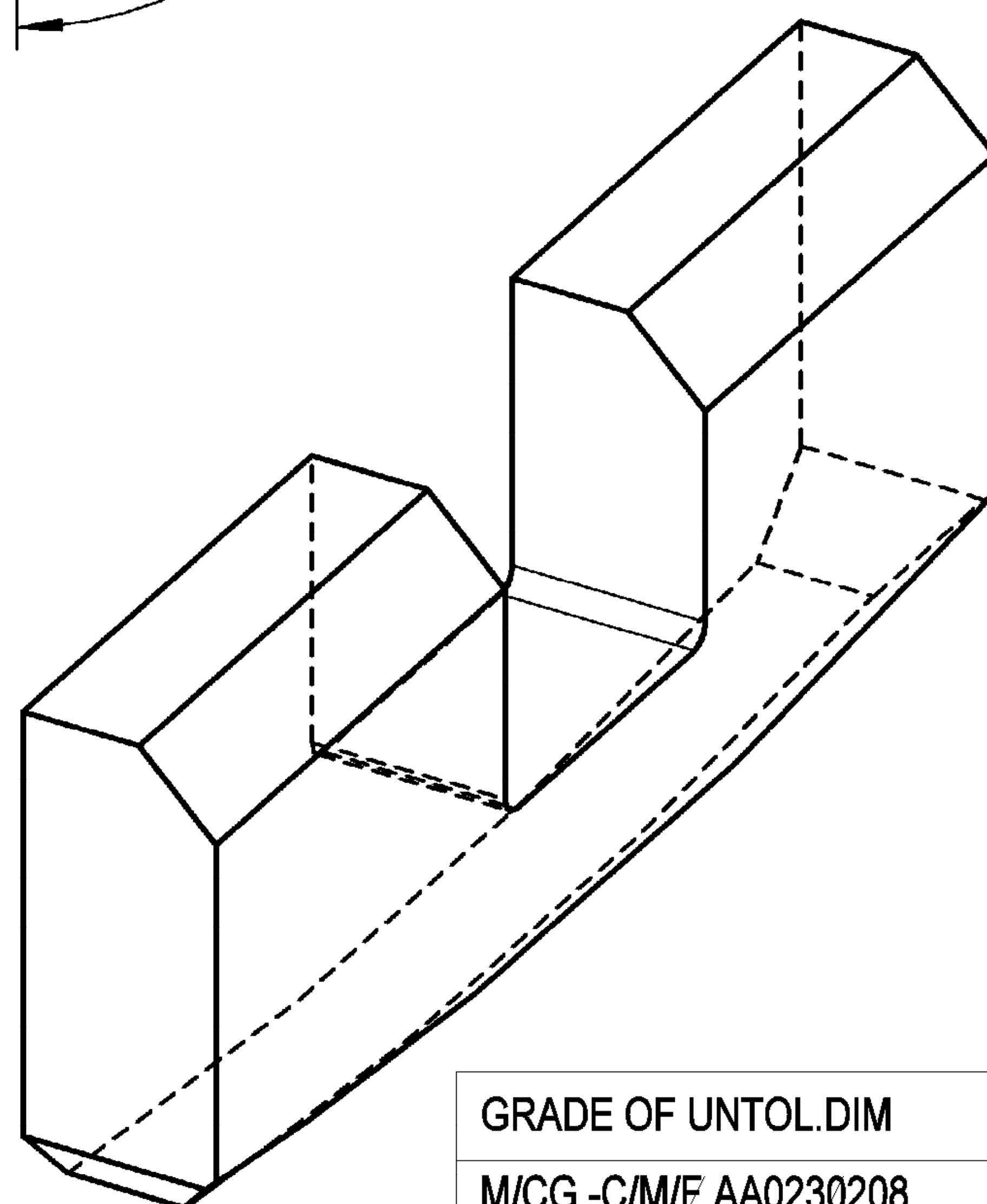
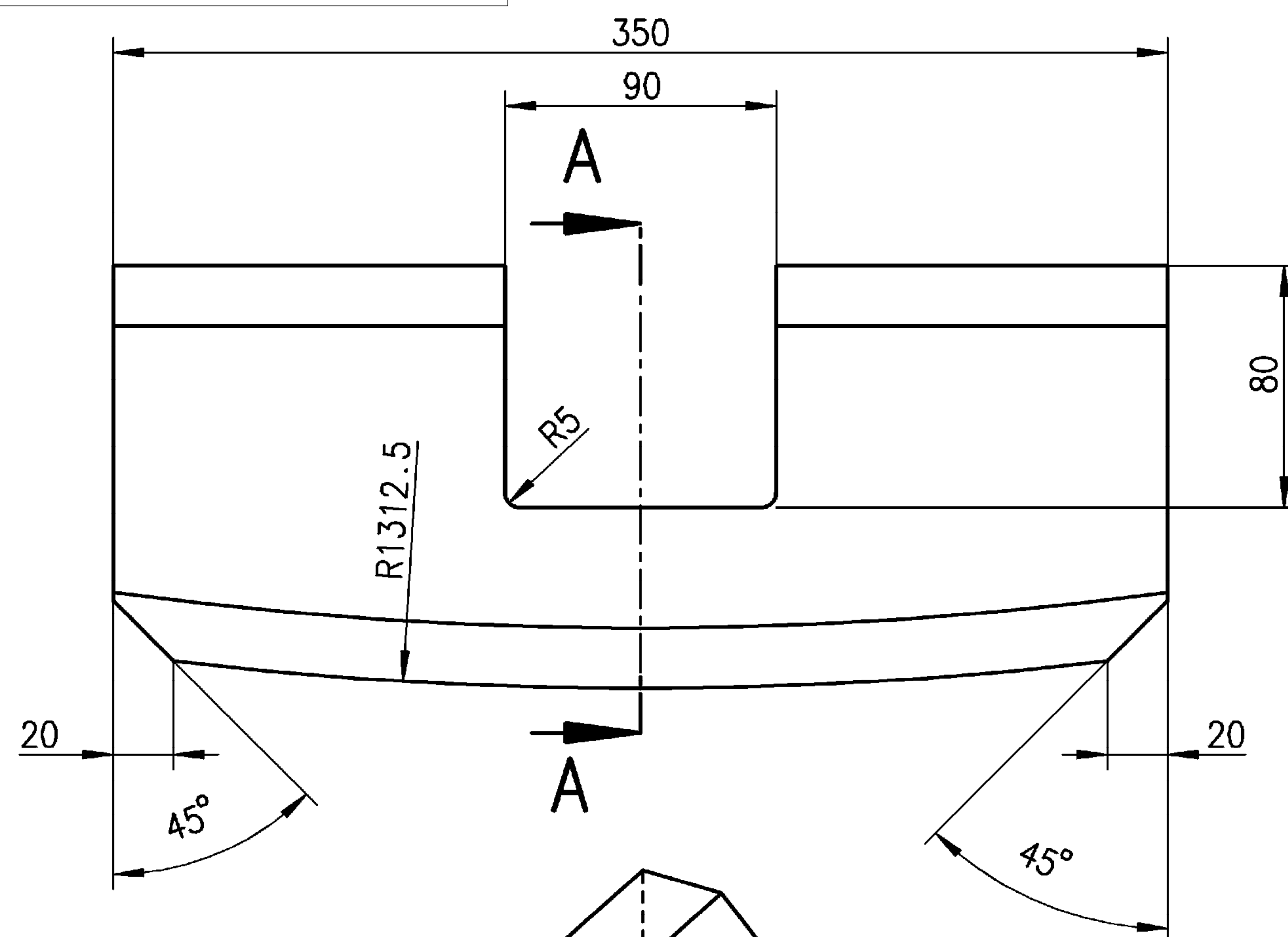
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TIN NO.
PSK046L680

Ref. Drawing No>
DSPPG-0127036

Sign & Date

Inventory No.



50 ✓ ALL OVER EXCEPT
OTHERWISE STATED

TECH.REQUIREMENT:-

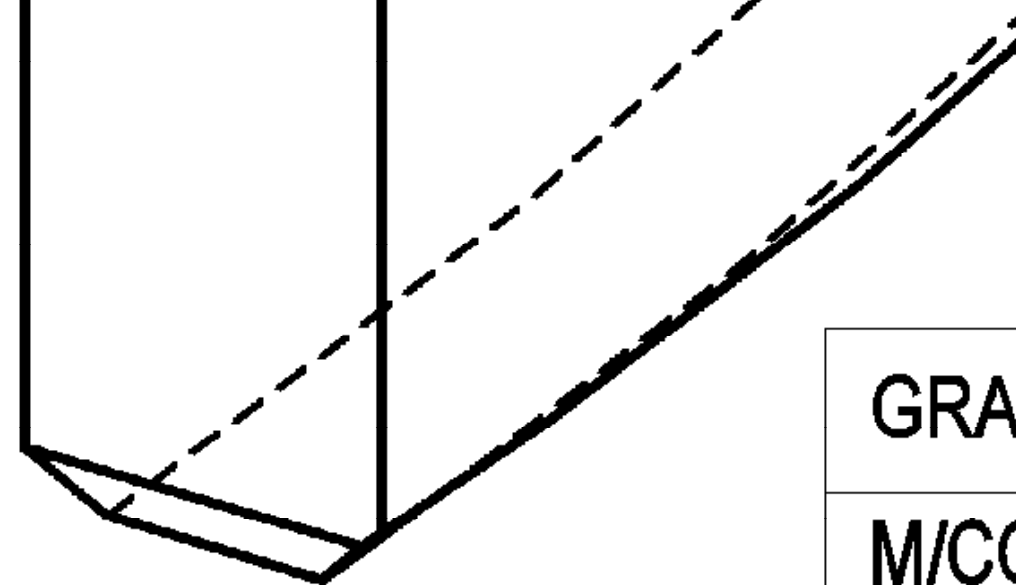
1. IDENTIFICATION ACCORDING TO HW 0400397.

GMS No./ C B O M 9-10742-58000			STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12

TYPE OF PRODUCT	STEAM TURBINE
OR	
NAME OF CUSTOMER/PROJECT	

 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		NAME	SIGN	DATE	NO. OF VAR —
	DRN	POONAM	-SD/-	1-12-2011	
	CHD	DINESH	-SD/-	2-12-2011	
	APPD	D K RAY	-SD/-	29.07.2012	

DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011		1:2.5	21.4	9-10742-58000	220	75 77
TITLE : PLATE				CARD CODE	DRAWING NO.		
					3-10742-58220		
				7	22 23 24		
				SHEET No. 01		No. OF SHEETS 01	

						—GMS No./—C B O M 9-10742-58000				STATUS OF DRG U			
						AGREED DEPT		NAME		SIGN		DATE	
						WT		H. VERMA		SD/-		28.07.12	
GRADE OF UNTOL.DIM													
M/CG.-C/M/F AA0230208													
WELDING-A/B/C/D / / AA0621104													
GAS CUTTING-'T3'AA0621101													
REV			DATE			ALTERED			MANOJ				
						CHECKED			DINESH				
5 MM MACHINING ALLOWANCE SHOWN DIM 140MM CHANGED TO 150MM AS PER C/A NO. STE-16-F0411						WEIGHT 14.8 CHANGED TO 21.4 KG							
						C/A NO.STE-15-F0245.							

SIZE A3

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Inventory No.		Sign & Date	Ref Drawing No> DSPPC-0127048		TIN NO. PSK0461694	

FIRST ANGLE PROJECTION										(ALL DIMENSIONS ARE IN mm)										FORM DG 38(B)																																																																															
3-10742-58238										DRAWING No.										50/ ALL OVER EXCEPT OTHERWISE STATED																																																																															
DIVIDED IN PARTS IF REQUIRED, ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELDS, PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER / SHOP.																																																																																																			
DEFINITION : FULL PENETRATION WELD																																																																																																			
TECHNICAL REQUIREMENT:-																																																																																																			
1. WELD CLASSIFICATION GROUP ACC. TO HW0620099:BS/BK																																																																																																			
2. WELDING TEST SCOPE ACC.TO HW0850199. CSR-1.																																																																																																			
3. IDENTIFICATION ACCORDING TO HW 0400397.																																																																																																			
GMS No./- C B O M 9-10742-58000										STATUS OF DRG U										TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT STEAM TURBINE																																																																															
AGREED DEPT WT										NAME H. VERMA										SIGN SD/-										DATE 28.07.12																																																																					
GRADE OF UNTOL.DIM M/CG.-C/M/F AA0230208										WELDING-A/B/C/D / / AA0621104										GAS CUTTING-'T3'AA0621101																																																																															
REV 02										DATE 18.05.13										ALTERED MONIKA										REV 01										DATE 06.04.13										ALTERED MANOJ										CHECKED DINESH																																							
SH2 SUPERSEDED THE OLD DRG UNDER THE SAME NO.										NO CHANGE.										C/A NO. STE-12-F0504.										DEPT STE										CODE 4011										SCALE 1:5										WEIGHT (KG) 33.4										REF. TO ASSY. DRG. 9-10742-58000										ITEM No. 238										NO. OF ITEMS 75 77									
AS PER C/A NO. STE-13-F0201.										C/A NO. STE-12-F0504.										TITLE : PIPE										CARD CODE 7										DRAWING NO. 3-10742-58238										SHEET No. 1										No. OF SHEETS 2										22 23 24																													

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Inventory No.		Sign & Date	Ref. Drawing No> DSPPG-0127060		TIN NO. PSK046L701	

FIRST ANGLE PROJECTION										(ALL DIMENSIONS ARE IN mm)										FORM DG 38(B)																																																																						
DRAWING No. 3-10742-58255										300 100 130 105 10x45° R1970 R5 A A 1:5 A-A 60 12.5 15x45° 15x45° 5 MM MACHINING ALLOWANCE 5 MM MACHINING ALLOWANCE TECH.REQUIREMENT:- 1.IDENTIFICATION ACCORDING TO HW 0400397.																																																																																
<table><tr><td colspan="4">GMS No./ C B O M 9-10742-58000</td><td colspan="2">STATUS OF DRG U</td></tr><tr><td>AGREED DEPT</td><td>NAME</td><td>SIGN</td><td>DATE</td><td colspan="2"></td></tr><tr><td>WT</td><td>H. VERMA</td><td>SD/-</td><td>28.07.12</td><td colspan="2"></td></tr></table>										GMS No./ C B O M 9-10742-58000				STATUS OF DRG U		AGREED DEPT	NAME	SIGN	DATE			WT	H. VERMA	SD/-	28.07.12			<table><tr><td colspan="2">TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT</td><td colspan="2">STEAM TURBINE</td></tr><tr><td colspan="2">Bharat Heavy Electricals Ltd.</td><td colspan="2">RANIPUR, HARDWAR</td></tr></table>										TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE		Bharat Heavy Electricals Ltd.		RANIPUR, HARDWAR		<table><tr><td>DRN</td><td>NAME</td><td>SIGN</td><td>DATE</td><td>NO. OF VAR</td></tr><tr><td>CHD</td><td>POONAM</td><td>SD/-</td><td>29.11.2011</td><td></td></tr><tr><td></td><td>DINESH</td><td>SD/-</td><td>01.12.2011</td><td></td></tr><tr><td>APPD</td><td>D.K.RAY</td><td>SD/-</td><td>29.07.2012</td><td>73 74</td></tr></table>										DRN	NAME	SIGN	DATE	NO. OF VAR	CHD	POONAM	SD/-	29.11.2011			DINESH	SD/-	01.12.2011		APPD	D.K.RAY	SD/-	29.07.2012	73 74															
GMS No./ C B O M 9-10742-58000				STATUS OF DRG U																																																																																						
AGREED DEPT	NAME	SIGN	DATE																																																																																							
WT	H. VERMA	SD/-	28.07.12																																																																																							
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE																																																																																								
Bharat Heavy Electricals Ltd.		RANIPUR, HARDWAR																																																																																								
DRN	NAME	SIGN	DATE	NO. OF VAR																																																																																						
CHD	POONAM	SD/-	29.11.2011																																																																																							
	DINESH	SD/-	01.12.2011																																																																																							
APPD	D.K.RAY	SD/-	29.07.2012	73 74																																																																																						
<table><tr><td>REV</td><td>DATE</td><td>ALTERED</td><td>SD/- MANOJ</td><td>REV</td><td>DATE</td><td>ALTERED</td><td>SD/- MANOJ</td></tr><tr><td></td><td></td><td>CHECKED</td><td></td><td>02</td><td>31.12.16</td><td>CHECKED</td><td>SD/- DINESH</td></tr></table>										REV	DATE	ALTERED	SD/- MANOJ	REV	DATE	ALTERED	SD/- MANOJ			CHECKED		02	31.12.16	CHECKED	SD/- DINESH	<table><tr><td>REV</td><td>DATE</td><td>ALTERED</td><td>MANOJ</td><td>REV</td><td>DATE</td><td>ALTERED</td><td>MANOJ</td></tr><tr><td>01</td><td>23.7.15</td><td>CHECKED</td><td>DINESH</td><td></td><td></td><td></td><td></td></tr></table>										REV	DATE	ALTERED	MANOJ	REV	DATE	ALTERED	MANOJ	01	23.7.15	CHECKED	DINESH					<table><tr><td colspan="2">DEPT</td><td>STE</td><td>SCALE</td><td>WEIGHT (KG)</td><td colspan="2">REF. TO ASSY. DRG.</td><td>ITEM No.</td><td>NO. OF ITEMS</td></tr><tr><td colspan="2">CODE</td><td>4011</td><td>1:5</td><td>13.4</td><td colspan="2">9-10742-58000</td><td>255</td><td>75 77</td></tr></table>										DEPT		STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	NO. OF ITEMS	CODE		4011	1:5	13.4	9-10742-58000		255	75 77											
REV	DATE	ALTERED	SD/- MANOJ	REV	DATE	ALTERED	SD/- MANOJ																																																																																			
		CHECKED		02	31.12.16	CHECKED	SD/- DINESH																																																																																			
REV	DATE	ALTERED	MANOJ	REV	DATE	ALTERED	MANOJ																																																																																			
01	23.7.15	CHECKED	DINESH																																																																																							
DEPT		STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	NO. OF ITEMS																																																																																		
CODE		4011	1:5	13.4	9-10742-58000		255	75 77																																																																																		
<table><tr><td colspan="4">GRADE OF UNTOL.DIM</td></tr><tr><td colspan="4">M/CG.-C/M/F AA0230208</td></tr><tr><td colspan="4">WELDING-A/B/C/D / / AA0621104</td></tr><tr><td colspan="4">GAS CUTTING-'T3'AA0621101</td></tr></table>										GRADE OF UNTOL.DIM				M/CG.-C/M/F AA0230208				WELDING-A/B/C/D / / AA0621104				GAS CUTTING-'T3'AA0621101				<table><tr><td colspan="4">5 MM MACHINING ALLOWANCE SHOWN</td></tr><tr><td colspan="4">DIM 120MM CHANGED TO 130MM</td></tr><tr><td colspan="4">AS PER C/A NO. STE-16-F0411</td></tr></table>										5 MM MACHINING ALLOWANCE SHOWN				DIM 120MM CHANGED TO 130MM				AS PER C/A NO. STE-16-F0411				<table><tr><td colspan="4">WEIGHT 11.5 CHANGED TO 13.4KG</td></tr><tr><td colspan="4">C/A NO.STE-15-F0245.</td></tr></table>										WEIGHT 11.5 CHANGED TO 13.4KG				C/A NO.STE-15-F0245.				<table><tr><td colspan="2">TITLE :</td><td>CARD CODE</td><td colspan="2">DRAWING NO.</td></tr><tr><td colspan="2">PLATE</td><td></td><td colspan="2">3-10742-58255</td></tr><tr><td colspan="2"></td><td></td><td colspan="2">22 23 24</td></tr></table>										TITLE :		CARD CODE	DRAWING NO.		PLATE			3-10742-58255					22 23 24	
GRADE OF UNTOL.DIM																																																																																										
M/CG.-C/M/F AA0230208																																																																																										
WELDING-A/B/C/D / / AA0621104																																																																																										
GAS CUTTING-'T3'AA0621101																																																																																										
5 MM MACHINING ALLOWANCE SHOWN																																																																																										
DIM 120MM CHANGED TO 130MM																																																																																										
AS PER C/A NO. STE-16-F0411																																																																																										
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C/A NO.STE-15-F0245.																																																																																										
TITLE :		CARD CODE	DRAWING NO.																																																																																							
PLATE			3-10742-58255																																																																																							
			22 23 24																																																																																							
										SHEET No. 1										No. OF SHEETS 1																																																																						
																														SIZE A3																																																												

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Ref Drawing No>
DPPPG-70128844

TIN NO.
P0049732300

Inventory No.

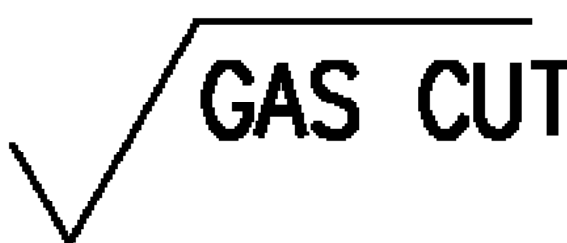
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

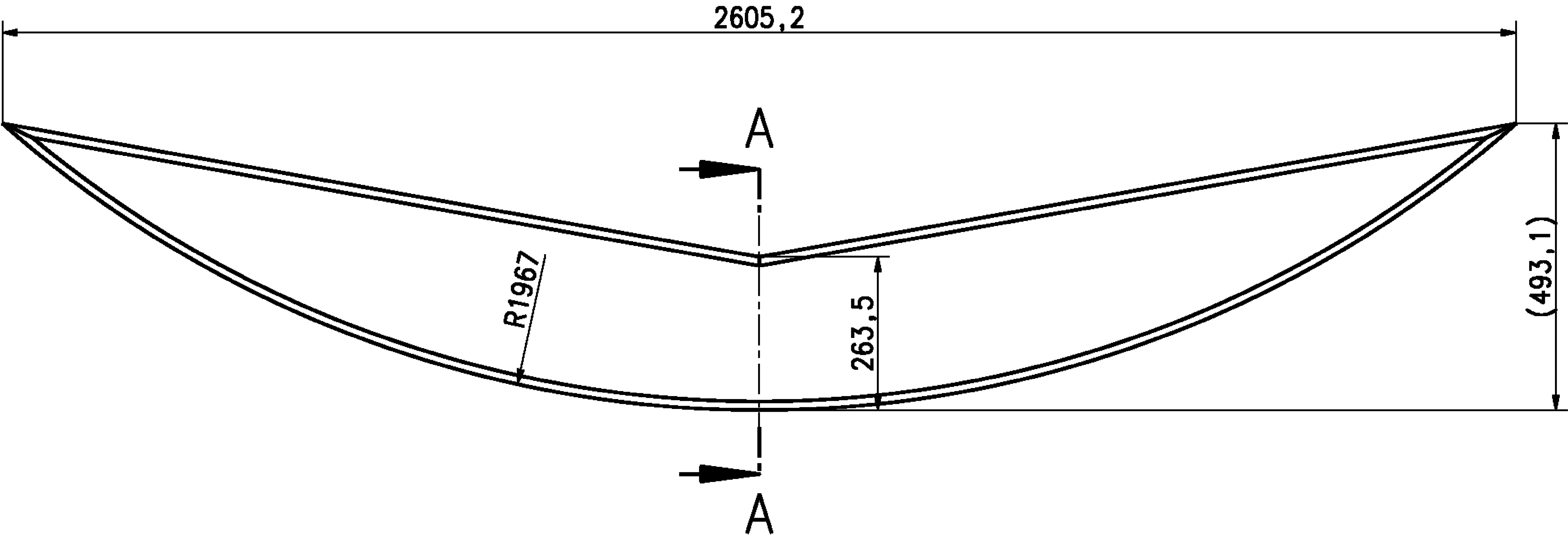
FORM DG 38(B)

3 10742 58259

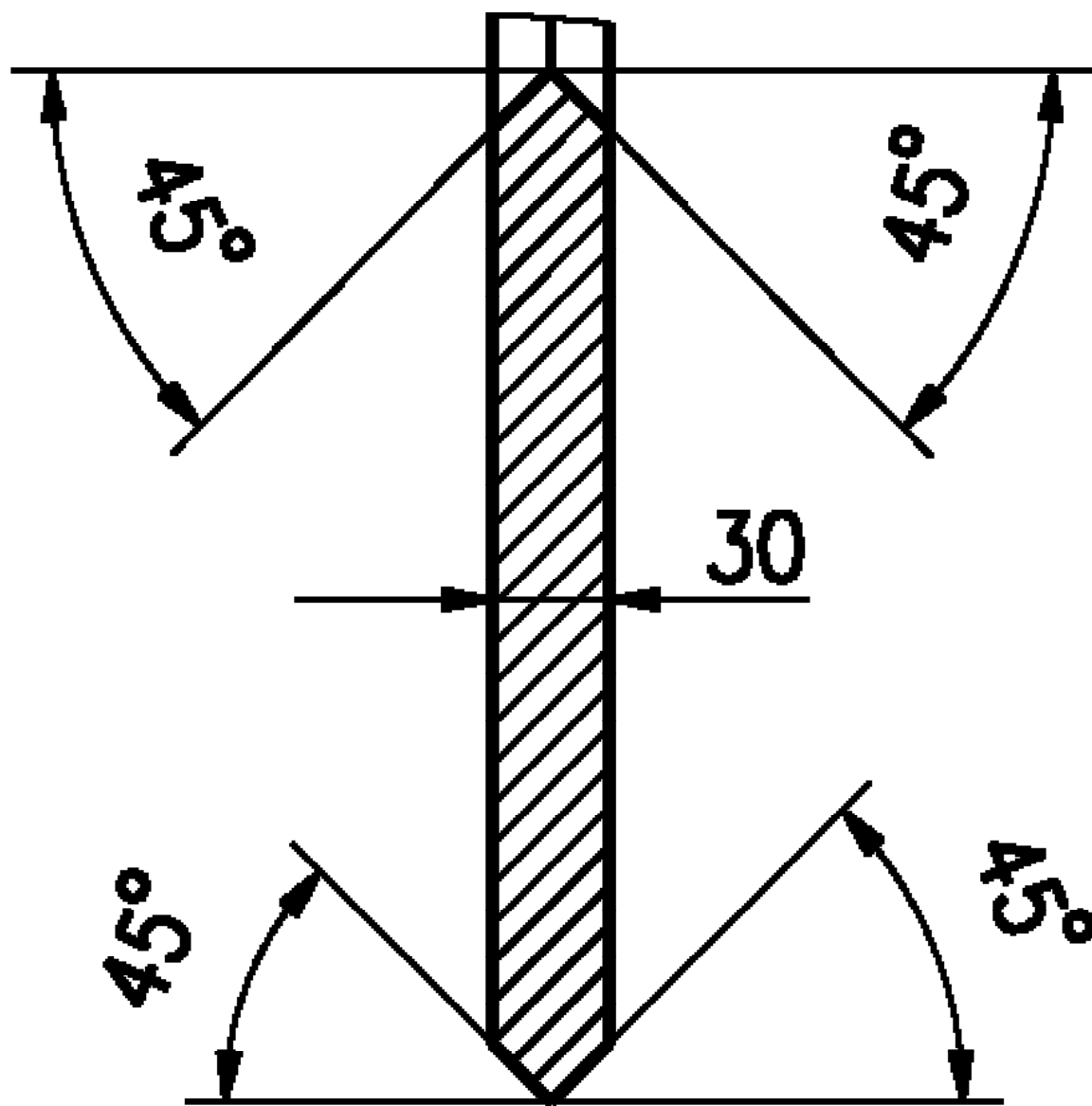
DRAWING No.



ALL OVER EXCEPT OTHERWISE STATED



A-A
1:5



TECHNICAL REQUIREMENTS :-

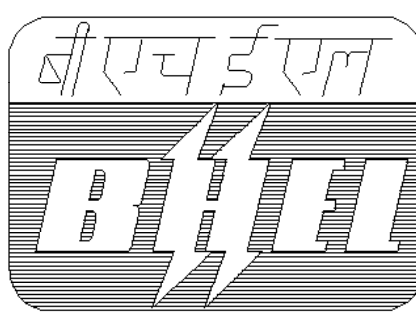
- 1) IDENTIFICATION ACCORDING TO HW0400397

GRADE OF UNTOL.DIM
M/CG.-C/M/F AA0230208
WELDING-A/B/C/D / / AA0621104
GAS CUTTING-'T3'AA0621101

GMS No./- C B O M 91074232000				STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE	
WT	S K Thakur	-SD-	04-01-17	

TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT

STEAM TURBINE



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

	NAME	SIGN	DATE	NO. OF VAR
DRN	Manoj Kumar	SD/-	04.01.2017	
CHD	Dinesh Gond	SD/-	04.01.2017	
APPD	D. K RAY	SD/-	04.01.2017	73 74

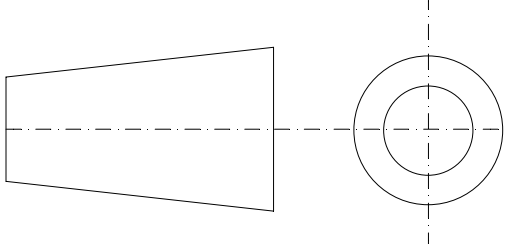
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		CHECKED			CHECKED			CHECKED

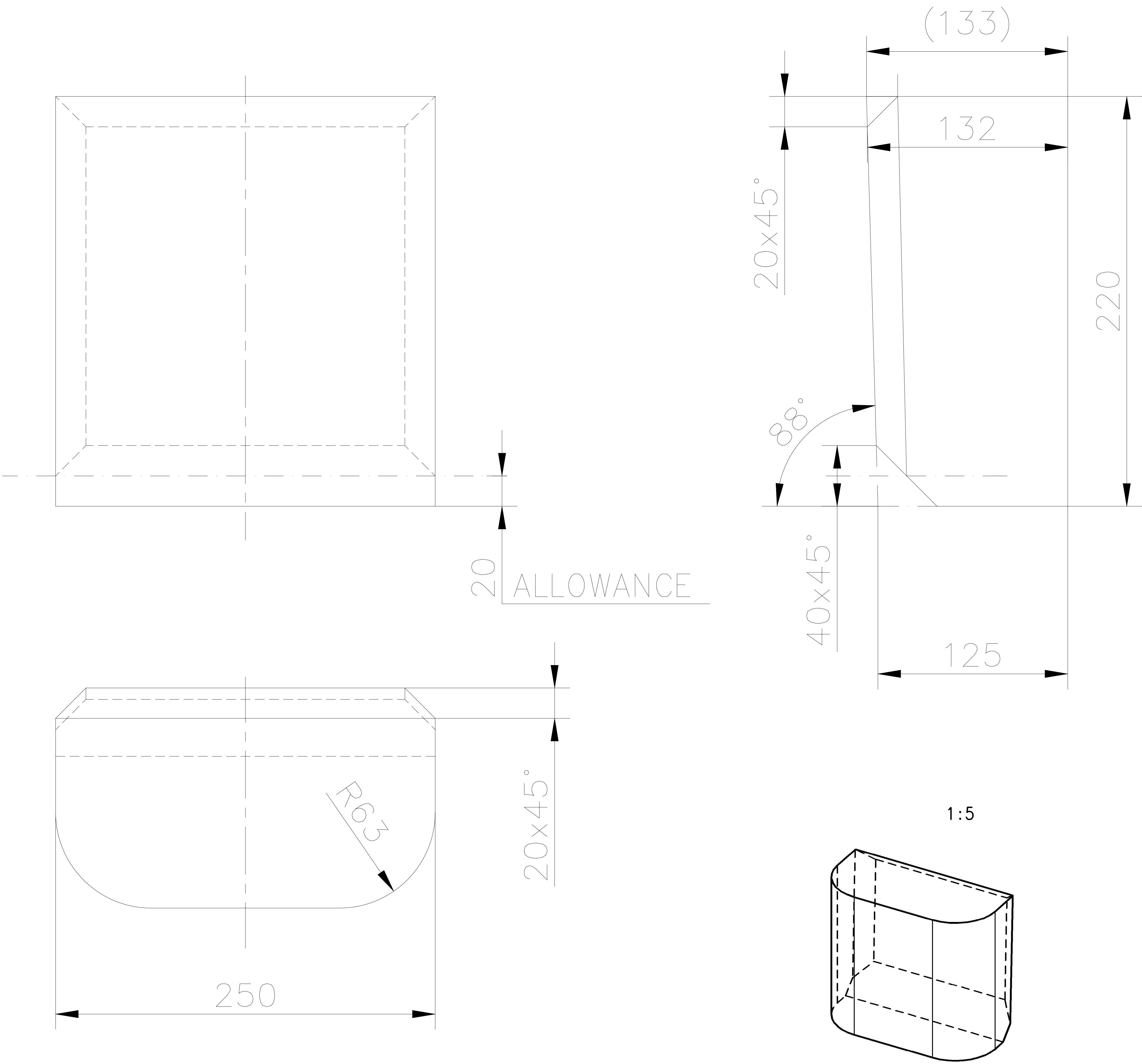
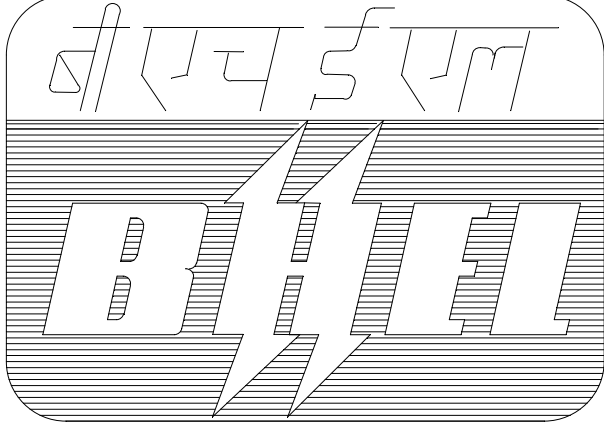
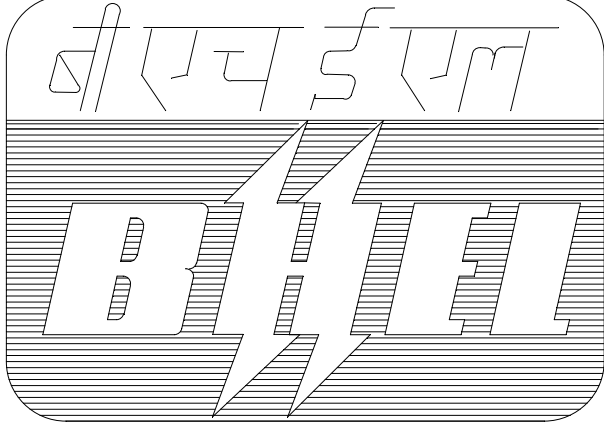
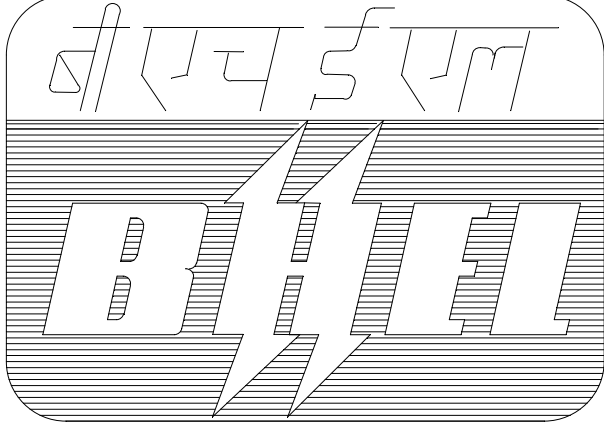
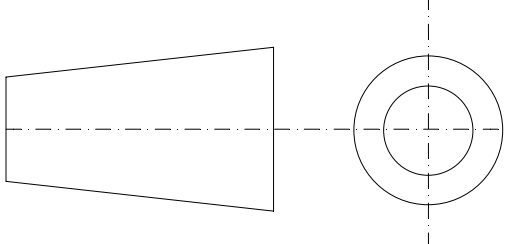
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CODE	4011		1:10	127.3	91074232000		259	75 77
TITLE :				CARD CODE	DRAWING NO.			
PLATE					31074258259		22 23 24	
					SHEET No. 1		No. OF SHEETS 1	

SIZE A3

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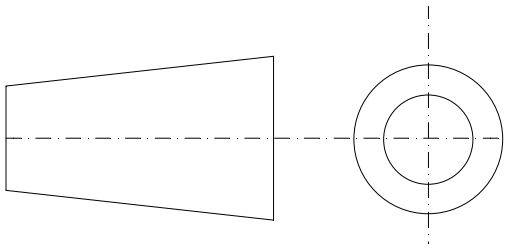
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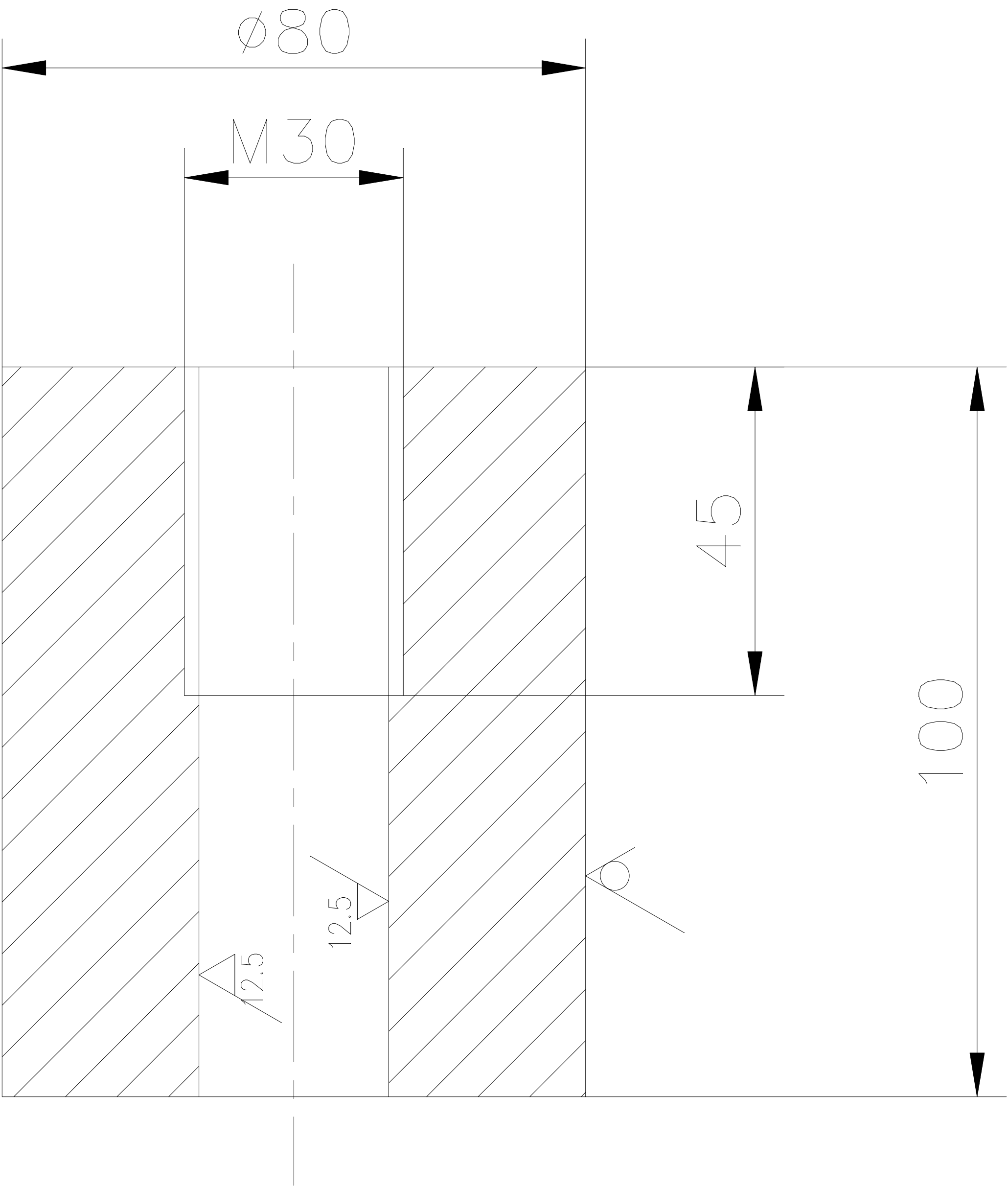
Inventory No.	DEPT STE		SCALE 1:5	WEIGHT (KG) 50.1	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 114 214	NO. OF ITEMS —
	CODE 4011						
Sign & Date	Ref.Drawing No> DSPPG-0127032	TIN NO. PSK046L658	TECHNICAL REQUIREMENT: — 1. IDENTIFICATION ACCORDING TO HW 0400397				

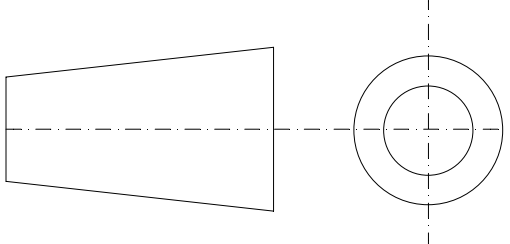
REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.— NO. 9-10742-58000			STATUS OF DRG U																		
		CHECKED			CHECKED																						
ZONE			ZONE			AGREED DEPT	NAME	SIGN	DATE																		
						WT	H. VERMA	SD/-	28.07.12																		
GRADE OF UNTOL.DIM M/CG. — AA0230208 m						WELDING—CLASS 'B' OF AA0621104		GAS CUTTING—TABLE 3 OF AA0621101																			
50/ ALL OVER EXCEPT OTHERWISE STATED 																											
TECHNICAL REQUIREMENT: — 1. IDENTIFICATION ACCORDING TO HW 0400397																											
<table><tr><td rowspan="3"></td><td colspan="4">BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR</td><td>DRN</td><td>NAME POONAM</td><td>SIGN SD/-</td><td>DATE 28.11.2011</td><td rowspan="3">NO. OF VAR</td></tr><tr><td>CHD</td><td>DINESH</td><td>SD/-</td><td>01.12.2011</td></tr><tr><td>APPD</td><td>D.K.RAY</td><td>SD/-</td><td></td></tr></table>											BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				DRN	NAME POONAM	SIGN SD/-	DATE 28.11.2011	NO. OF VAR	CHD	DINESH	SD/-	01.12.2011	APPD	D.K.RAY	SD/-	
	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				DRN	NAME POONAM	SIGN SD/-	DATE 28.11.2011	NO. OF VAR																		
	CHD	DINESH	SD/-	01.12.2011																							
	APPD	D.K.RAY	SD/-																								
Inventory No.	DEPT STE		SCALE 1:5	WEIGHT (KG) 50.1	REF. TO ASSY. DRG. 9-10742-58000		ITEM No. 114 214	NO. OF ITEMS —																			
	CODE 4011																										
	TITLE : JOINT FLANGE				CARD CODE	DRAWING NO. 4-10742-58114 7 22 23 24																					
SHEET No. 01						No. OF SHEETS01																					

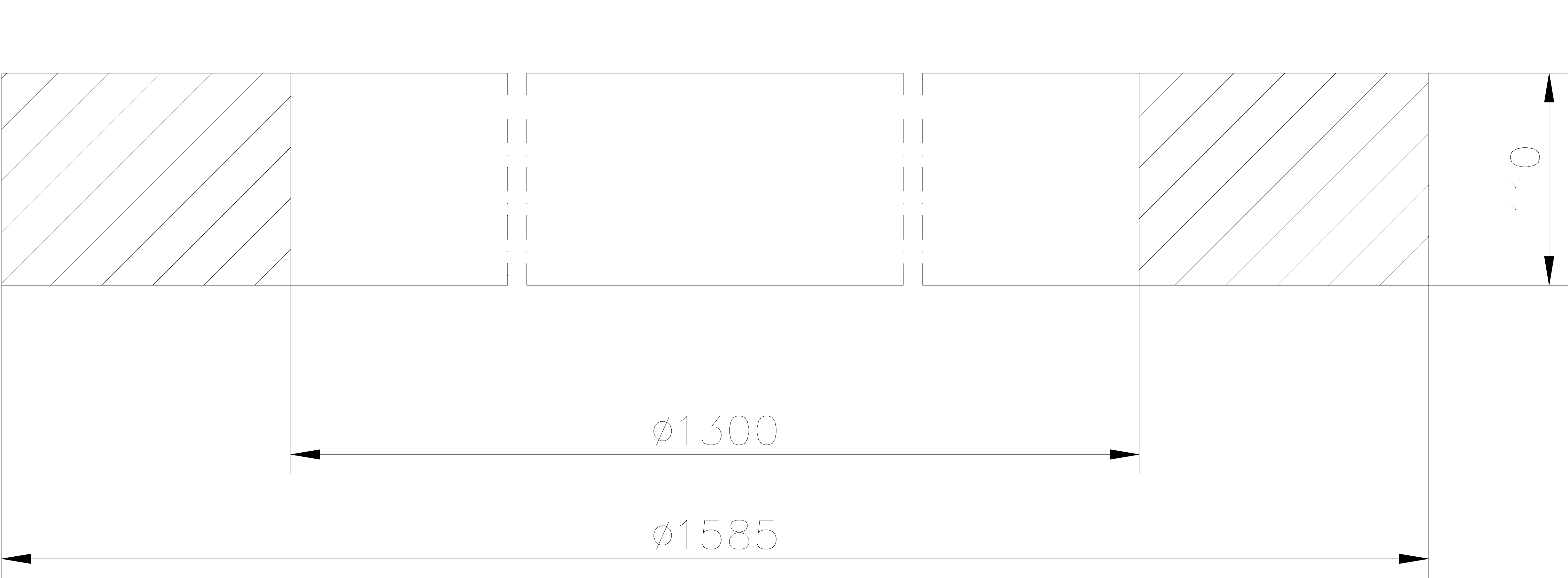
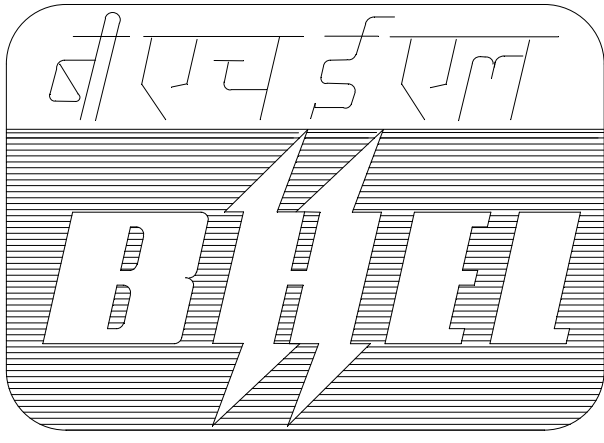
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Inventory No.	DEPT STE		SCALE 1:2	WEIGHT (KG) 3.5	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 148	NO. OF ITEMS ____
	CODE 4011						
Sign & Date	Ref.Drawing No> DSPPG-0127068	TIN NO. PSK046L664	TECHNICAL REQUIREMENT 1. IDENTIFICATION ACCORDING TO HW 0400397				

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO. 9-10742-58000			STATUS OF DRG U													
		CHECKED			CHECKED																	
ZONE			ZONE			AGREED DEPT	NAME	SIGN	DATE													
						WT	H. VERMA	sd/-	28.07.12													
GRADE OF UNTOL.DIM M/CG. - AA0230208 m						WELDING-CLASS 'B' OF AA0621104		GAS CUTTING-TABLE 3 OF AA0621101														
12.5/ ALL OVER EXCEPT OTHERWISE STATED 																						
BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR																						
<table><tr><td>DRN</td><td>POONAM</td><td>SIGN</td><td>DATE</td><td rowspan="3">NO. OF VAR</td></tr><tr><td>CHD</td><td>DINESH</td><td>sd/-</td><td>01.12.11</td></tr><tr><td>APPD</td><td>D.K.RAY</td><td>sd/-</td><td></td></tr></table>										DRN	POONAM	SIGN	DATE	NO. OF VAR	CHD	DINESH	sd/-	01.12.11	APPD	D.K.RAY	sd/-	
DRN	POONAM	SIGN	DATE	NO. OF VAR																		
CHD	DINESH	sd/-	01.12.11																			
APPD	D.K.RAY	sd/-																				
<table><tr><td>TITLE :</td><td>CARD CODE</td><td>DRAWING NO. 4-10742-58148</td><td colspan="2">NO. OF SHEETS</td></tr><tr><td>CONNECTION</td><td></td><td></td><td colspan="2">01</td></tr></table>										TITLE :	CARD CODE	DRAWING NO. 4-10742-58148	NO. OF SHEETS		CONNECTION			01				
TITLE :	CARD CODE	DRAWING NO. 4-10742-58148	NO. OF SHEETS																			
CONNECTION			01																			
SHEET No. 01 No. OF SHEETS 01																						

Inventory No.	DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
	CODE 4011		1:5	536.00			
Sign & Date	Ref.Drawing No>	TIN NO.	TECHNICAL REQUIREMENT				

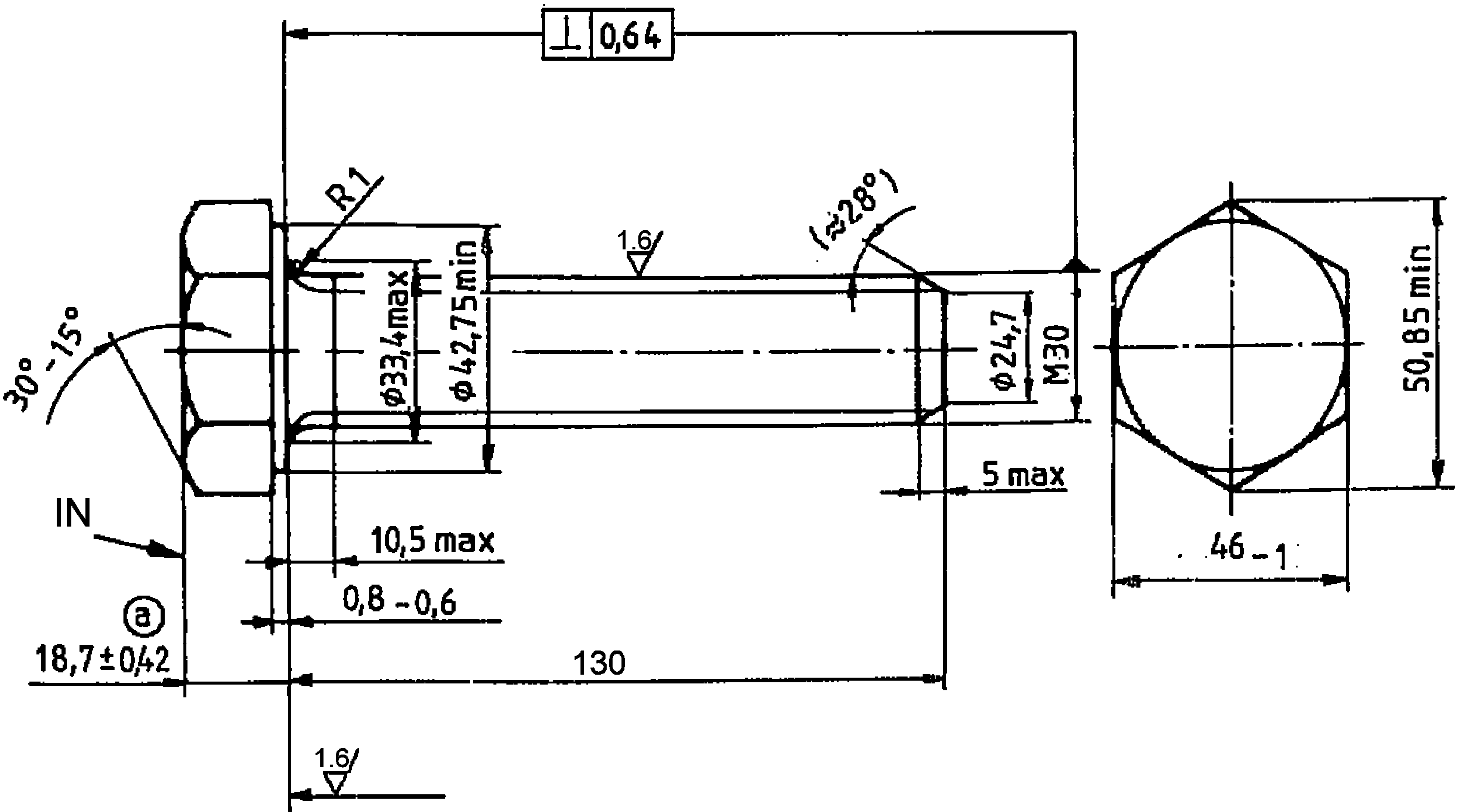
REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO.		STATUS OF DRG U	
		CHECKED	01	23.7.15	CHECKED	9-10742-58000			
ZONE			ZONE	WEIGHT 558 CHANGE TO 536KG C/A NO.STE-15-F0245	AGREED DEPT	NAME	SIGN	DATE	
					WT	H. VERMA	sd/-	28.07.12	
GRADE OF UNTOL.DIM					M/CG. - AA0230208 m	WELDING-CLASS 'B' OF AA0621104		GAS CUTTING-TABLE 3 OF AA0621101	
50/ ALL OVER EXCEPT OTHERWISE STATED 									
1. IDENTIFICATION ACCORDING TO HW 0400397									
		BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN	NAME	SIGN	DATE	NO. OF VAR
					CHD	POONAM	sd/-	29.11.2011	
					APPD	DINESH	sd/-	01.12.2011	
						D.K.RAY	sd/-	29.07.2012	
TITLE :		RING			CARD CODE	DRAWING NO. 4-10742-58150		NO. OF SHEETS	
						SHEET No. 01		No. OF SHEETS	

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm) FORM DG 39(B)

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO. 9-10742-58000			STATUS OF DRG U
		CHECKED			CHECKED				
ZONE					AGREED DEPT	NAME	SIGN	DATE	
					WT	H. VERMA	sd/-	28.07.12	
GRADE OF UNTOL.DIM		M/CG. - AA0230208 m			WELDING-CLASS `B` OF AA0621104		GAS CUTTING-TABLE 3 OF AA0621101		

12.5/ ALL OVER EXCEPT OTHERWISE STATED



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TIN NO. PMOA58F89C76	Ref.Drawing No> A0152A9314	Sign & Date	Inventory No.	DEPT STE
				CODE4011

TECHNICAL REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397

		BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		NAME	SIGN	DATE	NO. OF VAR			
				DRN	POONAM	sd/-			29.11.2011	
				CHD	DINESH	sd/-			01.12.2011	
				APPD	D.K.RAY	sd/-				
DEPT	STE			SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	NO. OF ITEMS	
CODE	4011			1:5	0.92	9-10742-58000		152	_____	
TITLE : HEXAGON HEAD SCREW (M30X130)				CARD CODE	DRAWING NO.					
					4-10742-58152					
					22 23 24					
					SHEET No.		01	No. OF SHEETS		01

A4 SIZE

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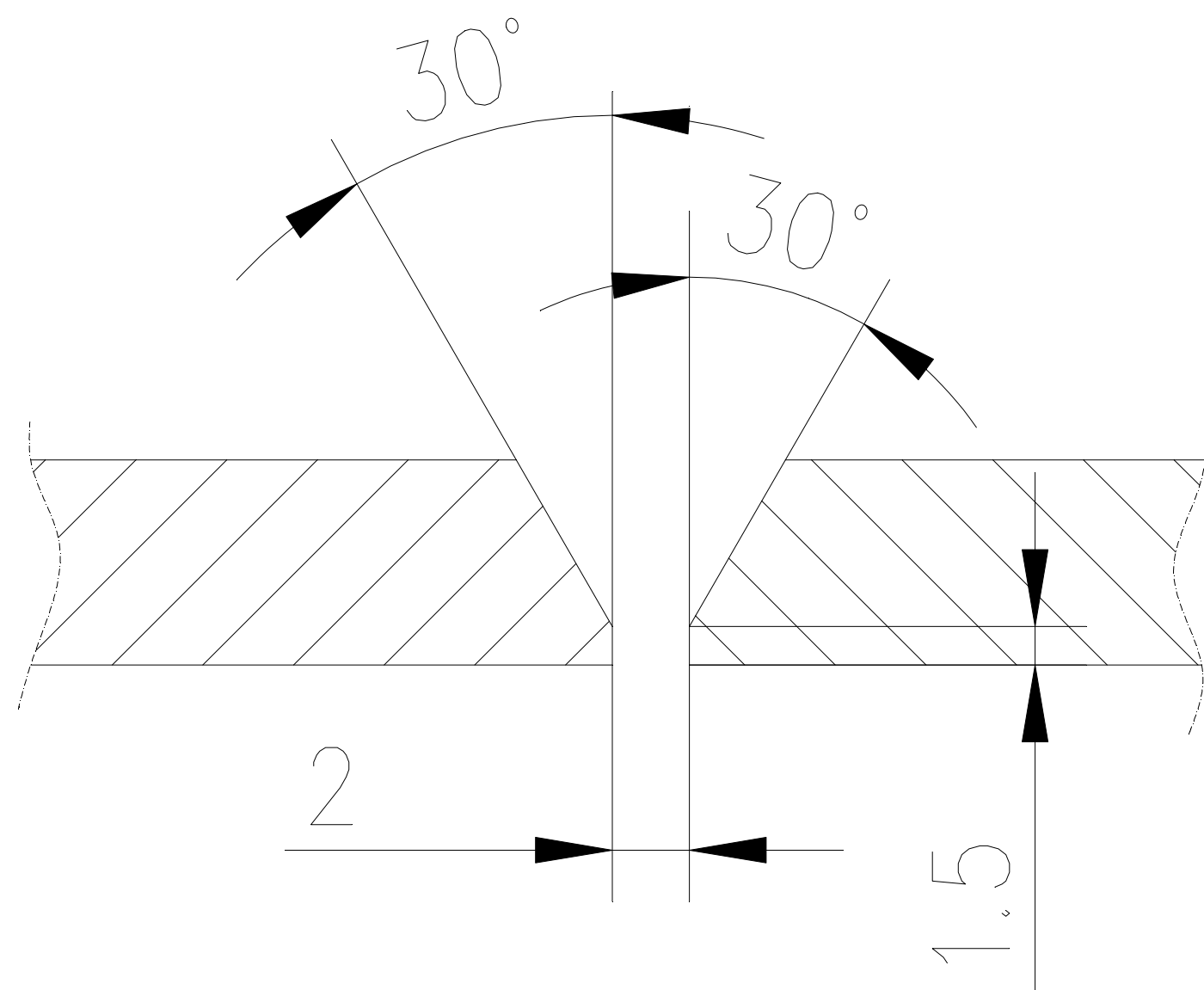
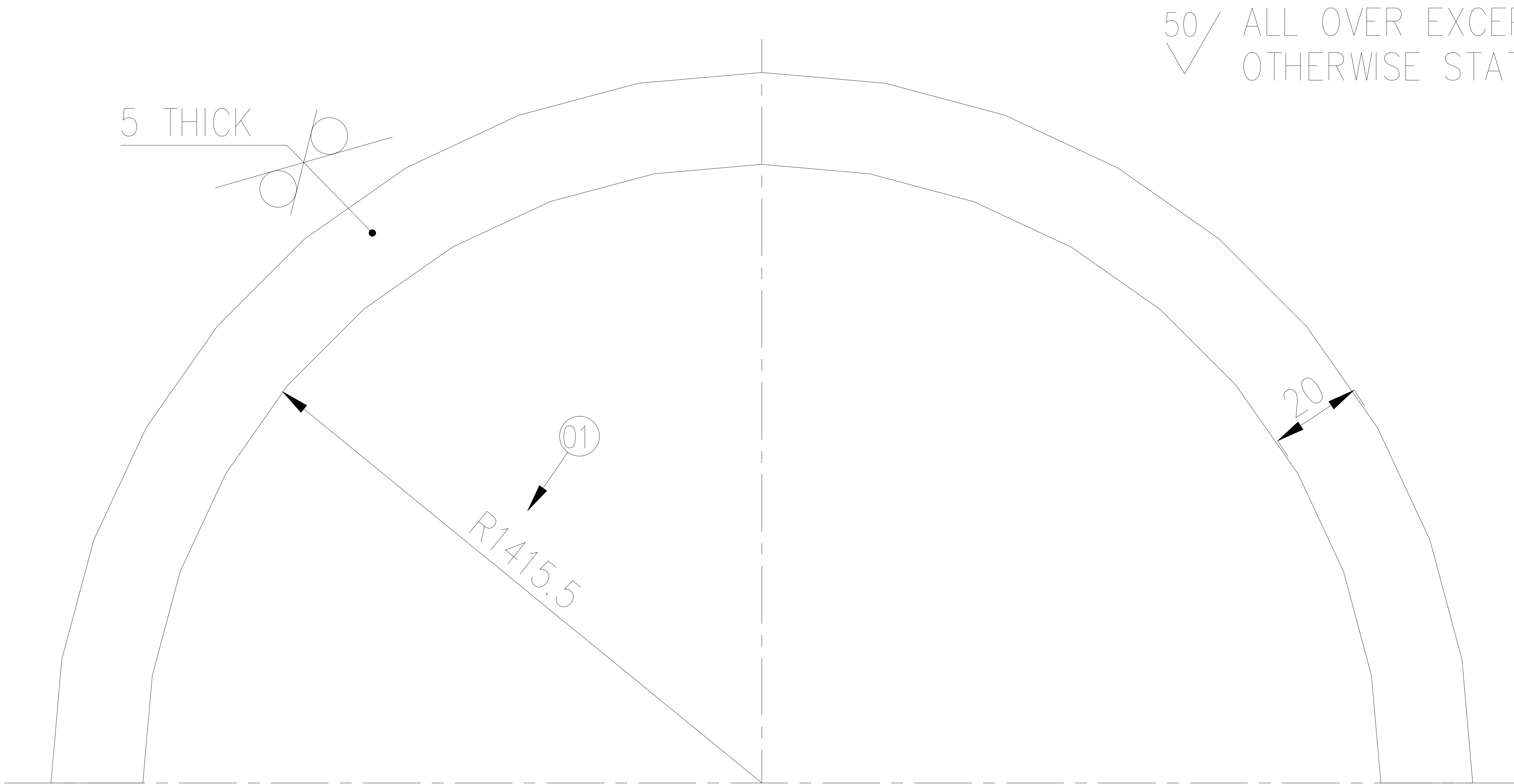
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Ref.Drawing No>

Sign & Date

Inventory No.

REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA	GMS No./ C.B.O.M.- NO. 91074258000			STATUS OF DRG U				
		CHECKED			01						05.06.15	CHECKED	DINESH	
ZONE			ZONE	AS PER C/A NO. STE-15-F0199.			AGREED DEPT	NAME	SIGN	DATE				
							WT	H.VERMA	SD/-	28.7.12				
GRADE OF UNTOL.DIM					M/CG.	C/M/F	-AA0230208	WELDING		A/B/C/D	AA0621104	GAS CUTTING-T3		AA0621101



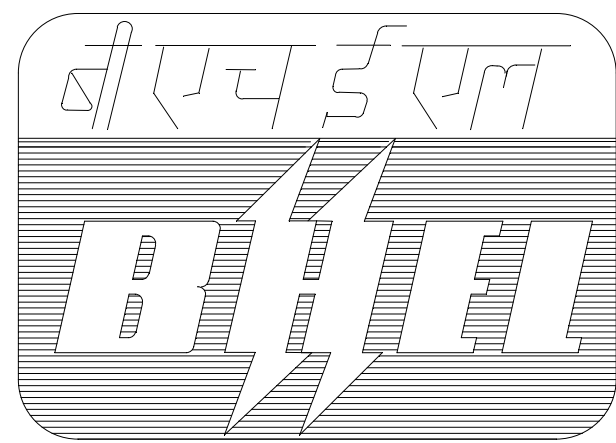
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IDENTIFICATION ACCORDING TO HW0400397.

DETAIL-I

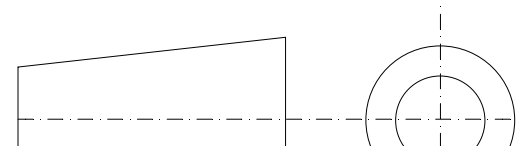
NOTE :

IF REQUIRED, THE RING CAN BE MADE IN PARTS BY WELDING AS PER DETAIL-I WELD CLASSIFICATION GROUP ACC. TO HW0620099; CS, WITHOUT OPEN ROOT DEFECT. WELDING TEST SCOPE ACC. TO HW0850199; CSR 3. THE PLATE IS TO BE STRAIGHTENED AFTER CUTTING AND WELDING.



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

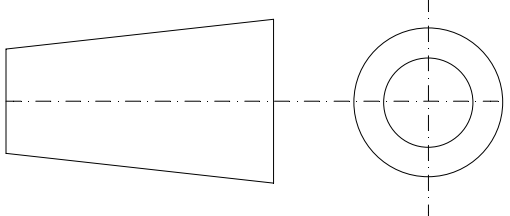
DRN	NAME	SIGN	DATE	NO. OF VAR
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APPD	DINESH	SD/-	27.7.12	
	D.K. RAY	SD/-	6.08.12	

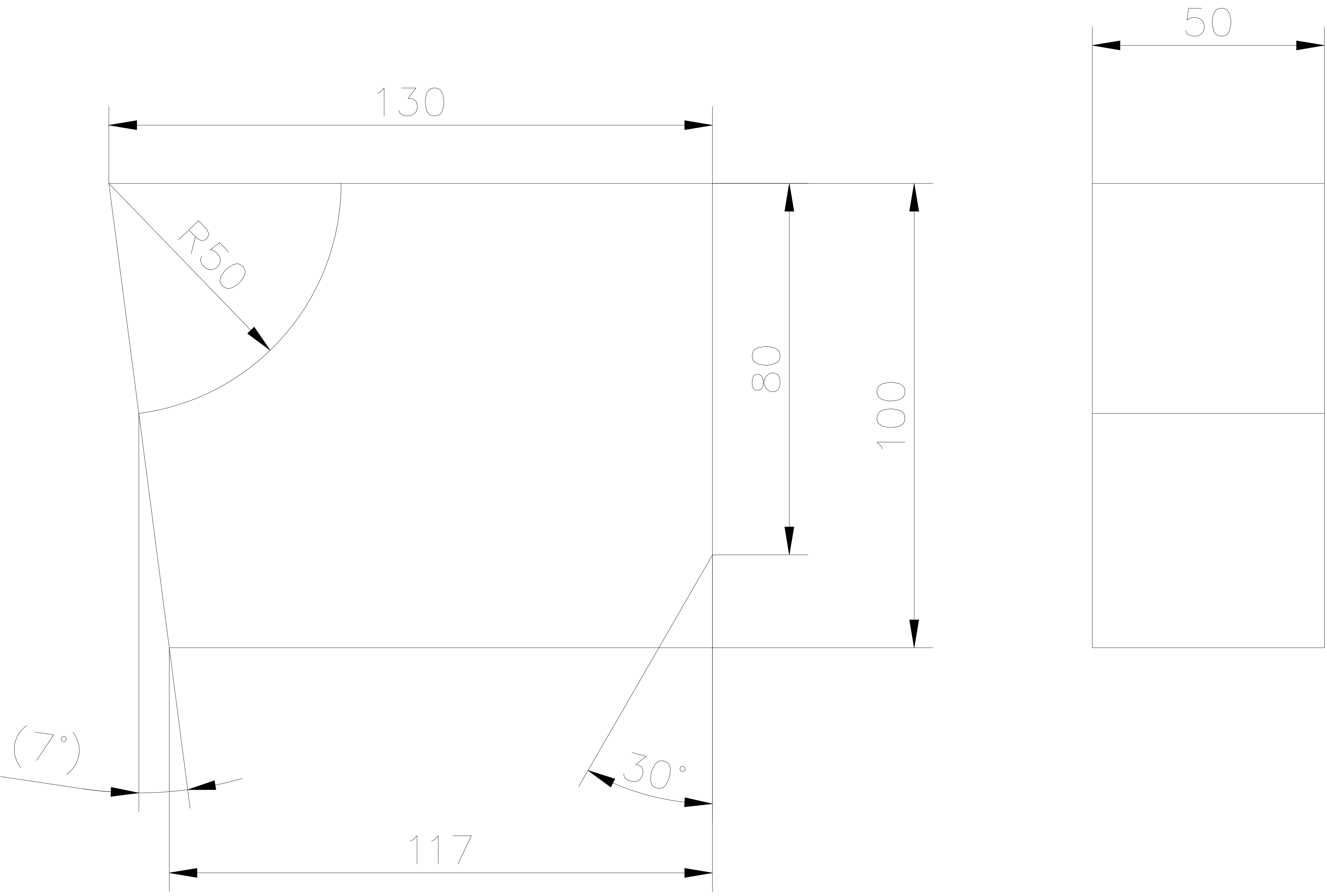
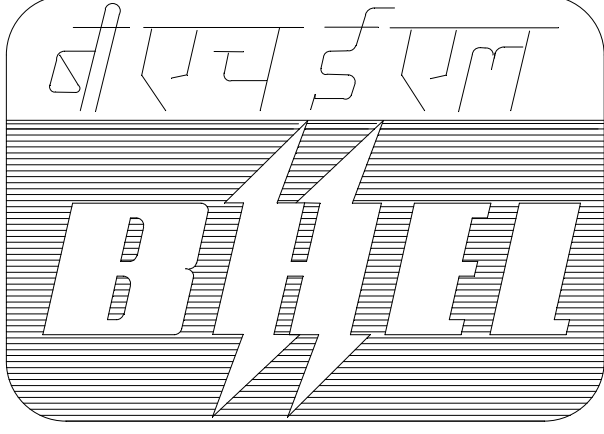
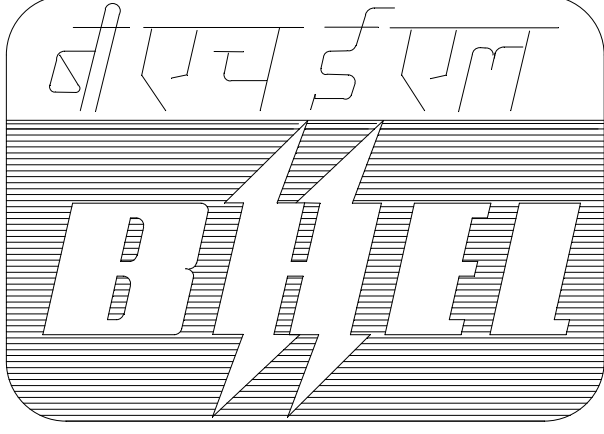
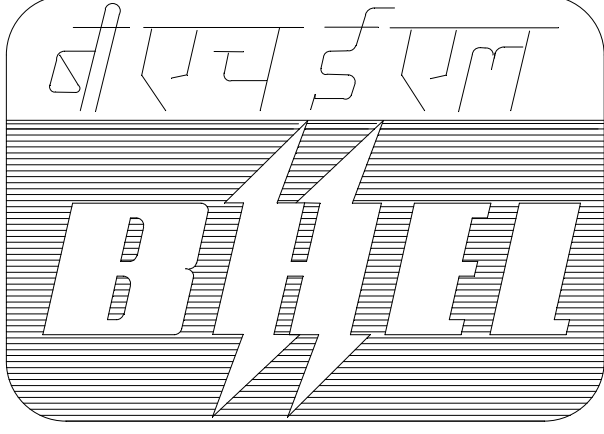
DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE 4011		NTS	3.50	9-10742-58000	153	—
TITLE : BACKING PLATE			CARD CODE	DRAWING NO. 4 10742 58153		
				SHEET No. 01 No. OF SHEETS 01		

A4 SIZE

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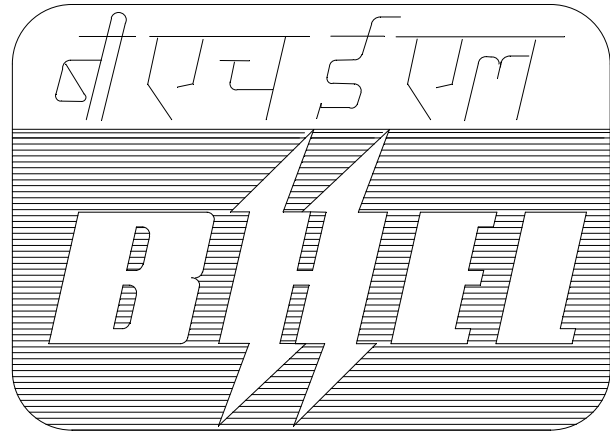
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	CODE 4011		1: 2	4.1			
Sign & Date	Ref.Drawing No> DSPPG-0127049	TIN NO. PSK046L695	TECHNICAL REQUIREMENT: - 1. IDENTIFICATION ACCORDING TO HW 0400397				

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO.			STATUS OF DRG U																				
		CHECKED			CHECKED	9-10742-58000																							
ZONE			ZONE			AGREED DEPT	NAME	SIGN	DATE																				
						WT	H. VERMA	sd/-	28.07.12																				
GRADE OF UNTOL.DIM M/CG. - AA0230208 m						WELDING-CLASS 'B' OF AA0621104		GAS CUTTING-TABLE 3 OF AA0621101																					
50/ ✓ ALL OVER EXCEPT OTHERWISE STATED 																													
<table><tr><td rowspan="3"></td><td colspan="2">BHARAT HEAVY ELECTRICALS LTD.</td><td>DRN</td><td>POONAM</td><td>SIGN</td><td>DATE</td><td rowspan="3">NO. OF VAR</td></tr><tr><td colspan="2">RANIPUR, HARDWAR</td><td>CHD</td><td>DINESH</td><td>sd/-</td><td>1.12.2011</td></tr><tr><td colspan="2"></td><td>APPD</td><td>D.K.RAY</td><td>sd/-</td><td>2.12.2011</td></tr></table>											BHARAT HEAVY ELECTRICALS LTD.		DRN	POONAM	SIGN	DATE	NO. OF VAR	RANIPUR, HARDWAR		CHD	DINESH	sd/-	1.12.2011			APPD	D.K.RAY	sd/-	2.12.2011
	BHARAT HEAVY ELECTRICALS LTD.		DRN	POONAM	SIGN	DATE	NO. OF VAR																						
	RANIPUR, HARDWAR		CHD	DINESH	sd/-	1.12.2011																							
			APPD	D.K.RAY	sd/-	2.12.2011																							
TITLE :	RIB		CARD CODE	DRAWING NO. 4-10742-58239																									
				7 22 23 24																									
				SHEET No. 01 No. OF SHEETS 01																									

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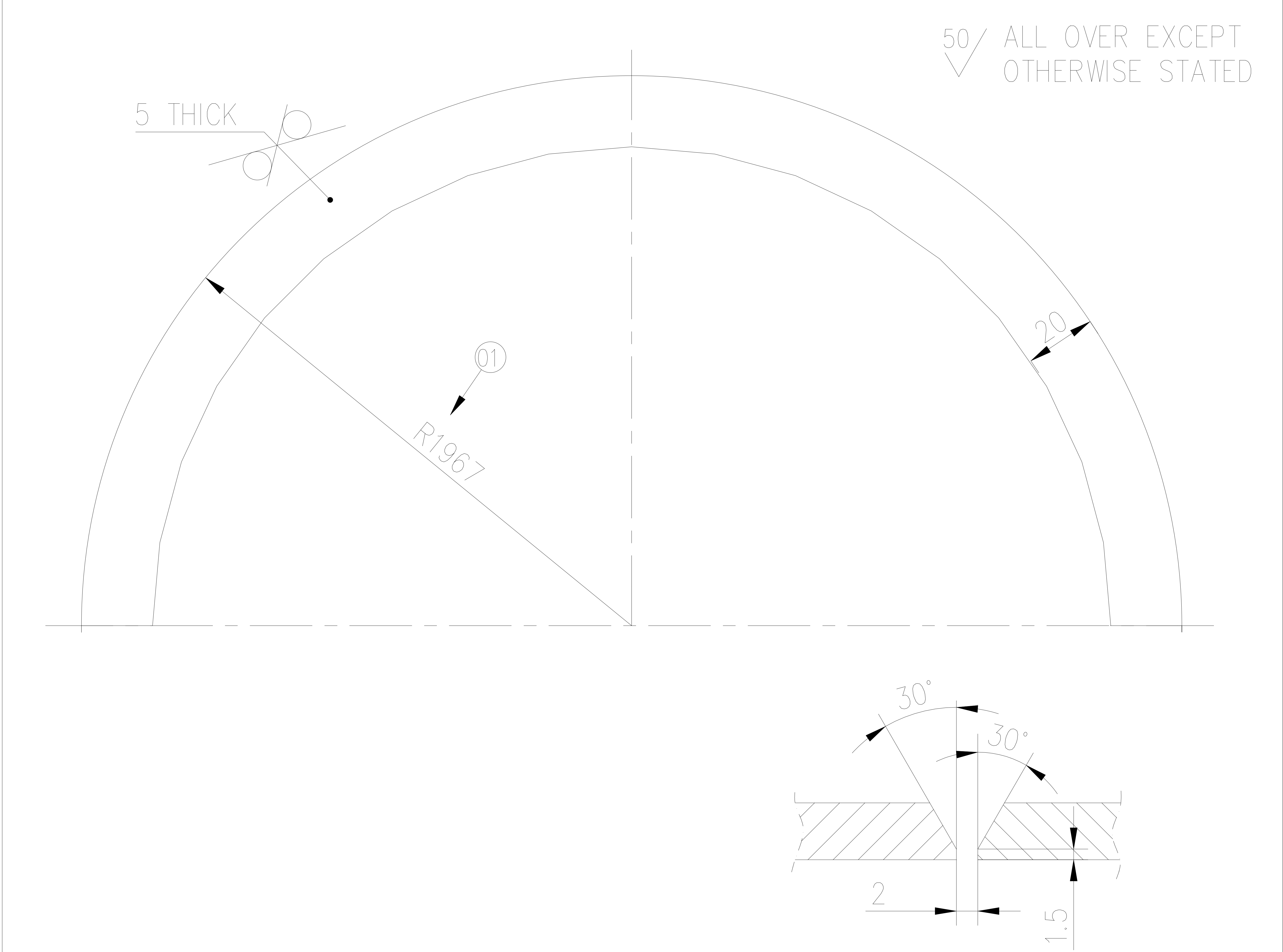
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LII41112

Ref.Drawing No>	NOTE : IF REQUIRED, THE RING CAN BE MADE IN PARTS BY WELDING AS PER DETAIL-I WELD CLASSIFICATION GROUP ACC. TO HW0620099; CS, WITHOUT OPEN ROOT DEFECT. WELDING TEST SCOPE ACC. TO HW0850199; CSR 3. THE PLATE IS TO BE STRAIGHTENED AFTER CUTTING AND WELDING.													
	Sign & Date					Inventory No.								
 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR					DRN		NAME		SIGN		DATE		NO. OF VAR	
DEPT STE CODE 4011					CHD		DINESH		SD/-		27.7.12		—	
					APPD		D.K. RAY		SD/-		6.08.12		—	
SCALE NTS					WEIGHT (KG) 4.82		REF. TO ASSY. DRG. 9-10742-58000				ITEM No. 253		NO. OF ITEMS —	
TITLE : BACKING PLATE					CARD CODE 7		DRAWING NO. 4 10742 58253				— 22 23 24			
							SHEET No. 01				No. OF SHEETS01			

A4 SIZE

REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA	GMS No./ C.B.O.M.- NO.	STATUS OF DRG		
		CHECKED			01				05.06.15	CHECKED
ZONE			ZONE	AS PER C/A NO. STE-15-F0199.			AGREED DEPT	NAME	SIGN	DATE
							WT	H.VERMA	SD/-	28.7.12
GRADE OF UNTOL.DIM M/CG. C/M/F -AA0230208 WELDING A/B/C/D AA0621104 GAS CUTTING-T3 AA0621101										



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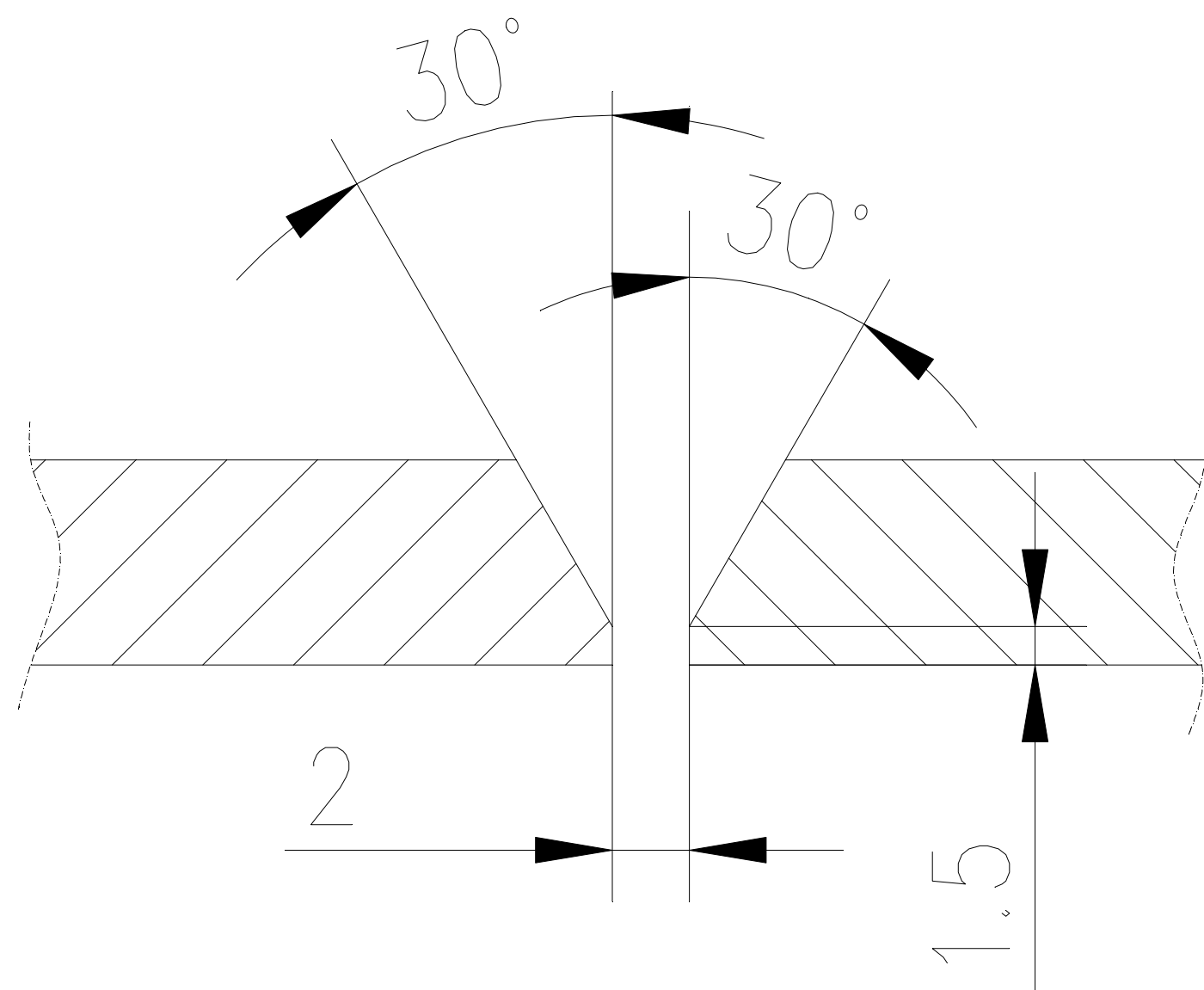
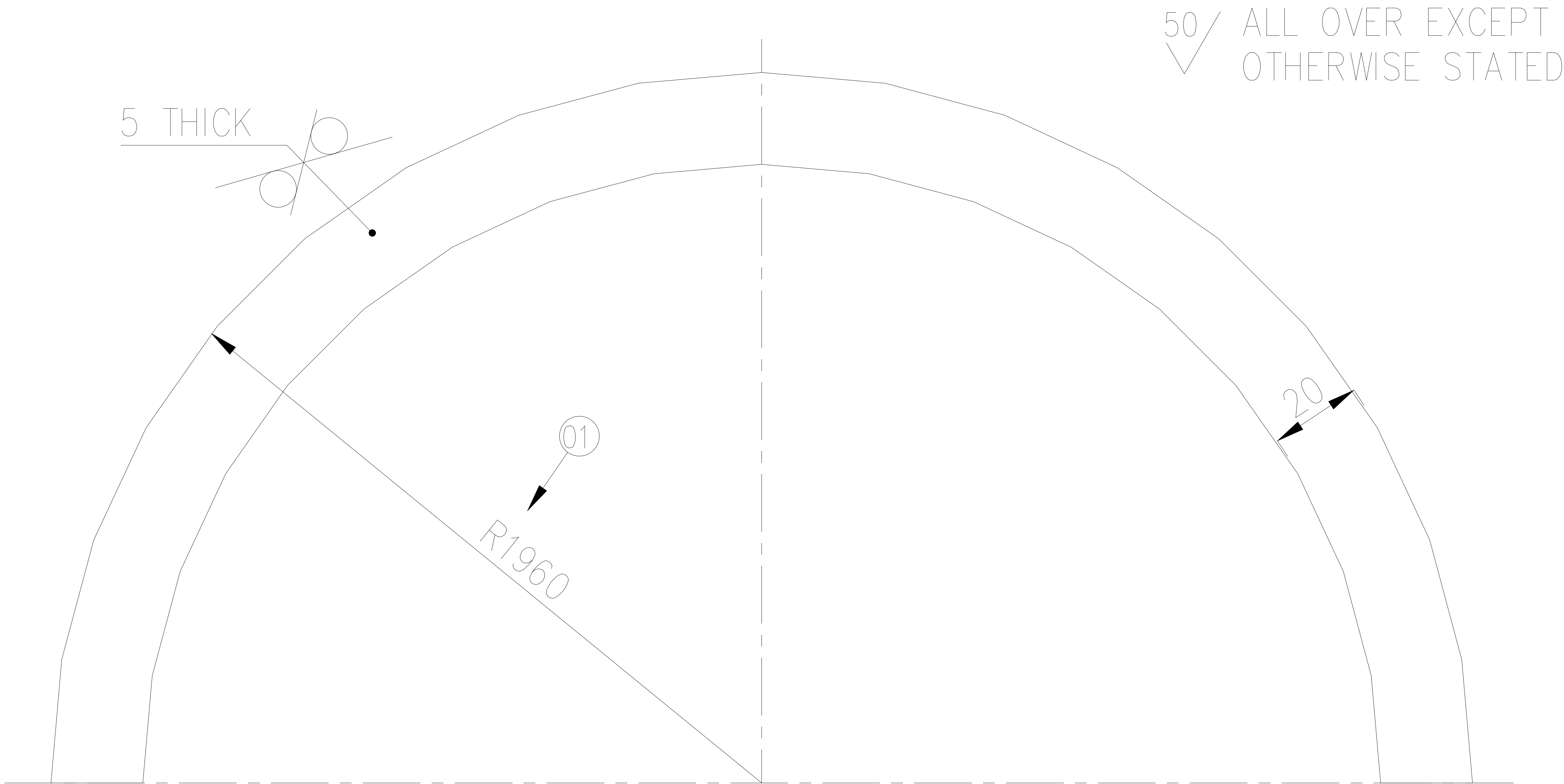
LII41112

Ref.Drawing No>

Sign & Date

Inventory No.

REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA	GMS No./ C.B.O.M.- NO.	STATUS OF DRG		
		CHECKED			01				05.06.15	CHECKED
ZONE			ZONE	AS PER C/A NO. STE-15-F0199.		AGREED DEPT	NAME	SIGN	DATE	
						WT	H.VERMA	SD/-	28.7.12	
GRADE OF UNTOL.DIM					M/CG. C/M/F	-AA0230208	WELDING A/B/C/D	AA0621104	GAS CUTTING-T3	AA0621101

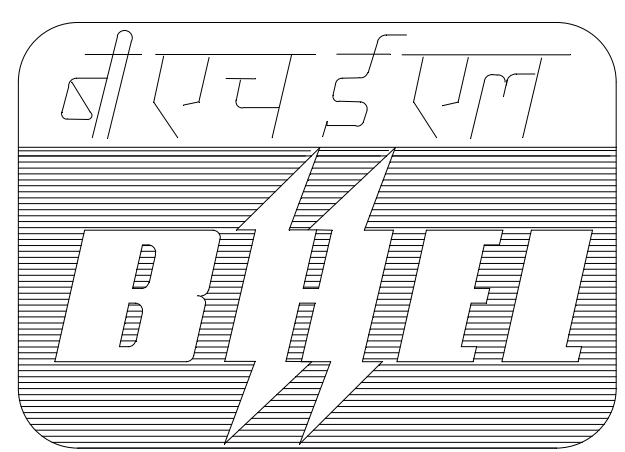


T.R.
IDENTIFICATION ACCORDING TO HW0400397.

DETAIL-I

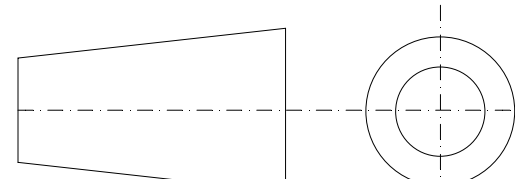
NOTE :

IF REQUIRED, THE RING CAN BE MADE IN PARTS BY WELDING AS PER DETAIL-I WELD CLASSIFICATION GROUP ACC. TO HW0620099; CS, WITHOUT OPEN ROOT DEFECT. WELDING TEST SCOPE ACC. TO HW0850199; CSR 3. THE PLATE IS TO BE STRAIGHTENED AFTER CUTTING AND WELDING.



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	ANOOP	SD/-	27.7.12	
APPD	DINESH	SD/-	27.7.12	
	D.K. RAY	SD/-	6.08.12	

DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE 4011		NTS	4.81	9-10742-58000	258	—
TITLE :			CARD CODE	DRAWING NO.		
BACKING PLATE				7 4 10742 58258 22 23 24		
			SHEET No. 01 No. OF SHEETS 01			

A4 SIZE

	CORPORATE QUALITY ASSURANCE SUB-VENDOR QUESTIONNAIRE
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i.	Item/Scope of Sub-contracting			
ii.	Address of the registered office	Details of Contact Person (Name, Designation, Mobile, Email)		
iii.	Name and Address of the proposed Sub-vendor's works where item is being manufactured	Details of Contact Person: (Name, Designation, Mobile, Email)		
iv.	Annual Production Capacity for proposed item/scope of sub-contracting			
v.	Annual production for last 3 years for proposed item/scope of sub-contracting			
vi.	Details of proposed works			
1.	Year of establishment of present works			
2.	Year of commencement of manufacturing at above works			
3.	Details of change in Works address in past (if any)			
4.	Total Area			
	Covered Area			
5.	Factory Registration Certificate	Details attached at Annexure – F2.1		
6.	Design/ Research & development set-up (No. of manpower, their qualification, machines & tools employed etc.)	Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design) Details attached at Annexure – F2.2 (if applicable)		
7.	Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc)	Details attached at Annexure – F2.3		
8.	After sales service set up in India, in case of foreign sub-vendor (Location, Contact Person, Contact details etc.)	Applicable / Not applicable Details attached at Annexure – F2.4		
9.	Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any	Details attached at Annexure – F2.5		
10.	Sources of Raw Material/Major Bought Out Item	Details attached at Annexure – F2.6		

	CORPORATE QUALITY ASSURANCE SUB-VENDOR QUESTIONNAIRE					

11.	Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing			Details attached at Annexure – F2.7		
12.	Manufacturing facilities (List of machines, special process facilities, material handling etc.)			Details attached at Annexure – F2.8		
13.	Testing facilities (List of testing equipment)			Details attached at Annexure – F2.9		
14.	If manufacturing process involves fabrication then-			Applicable / Not applicable		
	List of qualified Welders			Details attached at Annexure – F2.10		
	List of qualified NDT personnel with area of specialization			(if applicable)		
15.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses			Applicable / Not applicable Details attached at Annexure. –F2.11 (if applicable)		
16.	Supply reference list including recent supplies			Details attached at Annexure – F2.12 (as per format given below)		
	Project/ package	Customer Name	Supplied Item (Type/Rating/Model /Capacity/Size etc)	PO ref no/date	Supplied Quantity	Date of Supply
17.	Product satisfactory performance feedback letter/certificates/End User Feedback			Attached at annexure - F2.13		
18.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product (similar or higher rating) Note:- Reports need not to be submitted			Applicable / Not applicable Details attached at Annexure – F2.14 (if applicable)		
19.	Statutory / mandatory certification for the proposed product			Applicable / Not applicable Details attached at Annexure – F2.15 (if applicable)		
20.	Copy of ISO 9001 certificate (if available)			Attached at Annexure – F2.16		
21.	Product technical catalogues for proposed item (if available)			Details attached at Annexure – F2.17		
Name:		Desig:		Sign:		Date:

Company's Seal/Stamp:-

	CORPORATE QUALITY ASSURANCE MAIN CONTRACTOR'S PROPOSAL CUM EVALUATION REPORT			

Ref No:				Date:			
i.	Main Contractor						
ii.	Project						
iii.	Package Name				Package No		
iv.	Proposed Item/Scope of Sub-contracting						
v.	Item covered under	Schedule-1			As per contract clause No-		
		Schedule-2					
vi.	If item is Schedule-1 and proposed sub-vendor is indigenous, Main Contractor to explain how the contractual provisions will be fulfilled						
vii.	Name and Address of the proposed Sub-vendor's works						
viii.	PO placement date/ Start of manufacturing (if self-manufactured) as per L2 network						
ix.	Item Description (Type/Size/Rating/Scope of Sub-Contracting)	Total quantity of proposed item envisaged in this package (Nos/ Running Meters/ Kgs/ Tons etc)	Quantity proposed to be procured from proposed sub-vendor (Nos/ Running Meters /Kgs /Tons etc)		Timeline for quantity requirements as per project schedule & whether the proposed Sub-vendor equipped with adequate capacity to supply proposed order quantity in time		
x.	Supply experience of the proposed sub-vendor (including supplies to Main Contractor, if any) for similar item/scope of sub-contracting, for last 3 years (Note:- Only relevant experience details w.r.t. proposed item/scope of subcontracting to be brought out here)						
	Project/Package	Customer Name	Supplied Item (Type/Rating/Model /Capacity/Size etc)	PO ref no/date	Supplied Quantity	Date of Supply	
We confirm that as per our assessment, the proposed sub-vendor has requisite capabilities & supply experience and is suitable for supplying the proposed item/scope of sub-contracting.							
Name:			Desig:			Sign:	Date:

Company's Seal/Stamp:-

Format No. : QS-01-QAI-P-04/F1-R3

1/1

Engg. div./QA&I