



Tender No.: X/6620/2023/0724/C/1

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	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.Drg no. 9107423200000 shall be delivered to BHEL within 80 days after receiving BHEL material.
4. Drg no. 9107423250000 shall be delivered to BHEL within 80 days after receiving BHEL material.
- 5.Item no 149 & 152 of fab Drgs. no.- 91074232000-00 & 910742232500-00 are not in scope of vendor.
- 6.Vendor should submit manufacturing plan to BHEL for approval before start of assembly welding.
- 7.Prior to commencement of welding, the vendor is required to get the fit up of assembly checked by BHEL.
- 8.Technological support will be in the scope of vendor to avoid distortion during assembly, welding, dispatch and stress relieving.
- 9.NDT of LP inner casing inlet part before S/R will be in scope of vendor.
- 10.SRIV clearance shall be based on fulfillment of point no. 9 with report after receiving assembly in BHEL.
- 11.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.**
 - S/R, S/B before final Assembly, if reqd., will be done at BHEL.
 - 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: -

- a. Sub-contractor to provide a summary sheet of documents/TCs provided for correlation.
- b. Sub-contractor to mention relevant QP clauses on all TCs/ reports for every lot.
- c. Inspection by BHEL/BHEL nominated inspection agency as per drawing /Standard and quality plan requirements.
- d. Quality plan no. QP/QA/232204 rev 00 dated 20.01.2024 is attached, which is to be followed.

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 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.

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. 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



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Action against Bidders / vendor / supplier / contractor in case of default:

In order to protect the commercial interests of BHEL, BHEL shall 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, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc.

Suspension of Business Dealings could be in the form of "Hold" or "Banning" a supplier/ contractor or a bidder and shall be as per "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available at BHEL's website "<https://www.bhel.com/guidelines-suspension-business-dealings-suppliers-contractors>."

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 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



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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 out rightly 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/6620/2023/0724/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: -

TERMS AND CONDITIONS FOR Enquiry No. X/6620/2023/0724/C/1


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	We accept Risk Purchase clause. (as per clause no. 20 of Terms and Conditions of Enquiry).	
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.	
23	We have submitted Make in India (duly filled & signed and attached.)	
24	We have submitted GISTC Rev.06 (duly filled & signed and attached.)	
25	We have submitted MSE Certificate (if applicable)	
26	Rates have been quoted in indian Rupees on per Kg.	

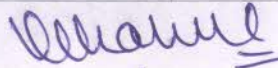
Note: BHEL reserves the right to reject any or all the offers (on techno-commercial ground) without assigning any reason thereof.

(Vendor's signature with Stamp)


PQR for LP INNER CASING INLET PART (FAB) – 91074232000-00 & 91074232500-00

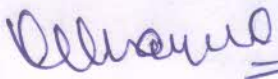
Sl. No.	Technical Requirement	Required	Offered (Vendor to fill the details)	Remarks
01.00	Experience Required: Vendors should have experience of fabricating (cutting/bending/assembly/welding/pre-fabrication machining) and supplying of at least 1 No. LP Inner Casing Inlet Part - Fab or similar fabricated 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—		
02.03	Vendor must have Gas Cutting facility for plate thickness 140 mm or above.	Manufacturing Facility list with capacity details, technical specifications, technical brochure, photograph etc. of the facilities.		
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
 (BS Army)
 AGN-WT

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN						APPLICABILITIES TO				
BHEL Haridwar accepted sub-contractors only	ITEM	LP INNER CASING INLET PART						Q.P. NO	QP/QA/232204	PROJECT		
							DATE	20.01.2024				
							REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR		
	WO. No.	10869A11501						PAGE NO.	Page 1 of 2	Indent	20230624 rev 00	

S. No.	COMPONENT OPERATION	CHARACTERISTIC CHECKED	CATEGORY	TYPE/METHOD OF CHECKED	QUANTITY OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE DOCUMENT	FORMAT OF RECORD					REMARK
									D	M	B	C	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.0	Material Receiving Inspection at sub-contractor's work	Verification of identification of material	Major	Visual inspection	100 %	As per drg./ Standard	As per drg./ Standard	PPMIV/ Q.no.	✓	P	V	V	Material will be supplied by BHEL, transfer of identification to be ensured.
		Verification of dimensions and visual Inspection	Major	Measurement	100 %	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	-	P	-	-	
2.0	<u>INPROCESS-INSPECTION</u>												
2.1	WPS, PQR & WPQ Qualification	Scrutinizing	Major	Record check	100%	ASME SEC IX	ASME SEC IX	Test Report	✓	P	V	-	
2.2		Visual inspection weld seam preparation	Major	Visual	100%	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	✓	P	V	-	
2.3		Visual inspection of weld	Major	Visual	100%	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	✓	P	V	-	
2.4		Verification of Stress relieving record	Major	Review review	100%	As per drg./ Standard	As per drg./ Standard	SR Graph	✓	P	V	V	
2.5		RT/UT on butt welds	Major	NDT	As per Drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	V/ W	V/ W	1) NDT shall be carried out by ASNT/ISNT Level I/II Qualified Operators 2) V in case of RT' W in case of UT/DPT. 3) NDT consumables shall be used as per BHEL specification.
2.6		DPT of fillet welds	Major	NDT	As per Drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	W	V	
2.7		DPT of lifting lugs (if applicable)	Major	NDT	As per Drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	W	V	
3.0	<u>FINAL INSPECTION</u>												

Manufacturer/ Subcontractor	Legends: P: Perform by; W: Witness by; V: Record review; C: Customer; B: BHEL/BHEL Representative; M: Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use	
		Worked by: <i>Deepika Singh</i> Deepika Singh, DM (QAX)	Approved by: <i>Sugandh</i> Sugandh Agarwal, Manager (QAX)

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN					APPLICABILITIES TO			
BHEL Haridwar accepted sub-contractors only	ITEM	LP INNER CASING INLET PART					Q.P. NO	QP/QA/232204	PROJECT	
						DATE	20.01.2024			
						REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR	
	WO. No.	10869A11501					PAGE NO.	Page 2 of 2	Indent	20230624 rev 00

3.1	Dimensions	Dimensional inspection after machining	Major	Measurement	100%/Random	As per drg./Standard	As per drg./Standard	Obs. Sheet	✓	P	W	-	
3.2		Coating/ conservation (as applicable)	Major	Visual & measurement	As per drg.	As per drg./Standard	As per drg./Standard	Obs. Sheet	✓	P	V	-	
3.3		Completeness of Job, Documentation	Major	Visual	100%	As per drg./Standard	As per drg./Standard	Record	✓	P	V	-	Item shall be dispatched to BHEL after acceptance by BHEL/ BHEL nominated agency after duly identifying by P.O.No., drg no. Plant Order No. and I.R.No

Note:

1. Requirements of P.O., drawing and standard shall be fulfilled.
2. BHEL reserves the right for conduct repeat test, if required.

Manufacturer/ Subcontractor	Legends: P: Perform by; W: Witness by; V: Record review; C: Customer; B: BHEL/BHEL Representative; M: Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use	
		Worked by: <i>Deepika Singh</i> Deepika Singh, DM (QAX)	Approved by: <i>Sugandh Agarwal</i> Sugandh Agarwal, Manager (QAX)

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.

- a) 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.
- b) An agent cannot quote on behalf of more than one principal in the same Tender Enquiry.

3. SUBMISSION OF TENDER.

- a) 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.**

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

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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.

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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, L2Status 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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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.

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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.



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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:

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

- a) Special conditions of enquiry, if enclosed by BHEL, will supersede the respective standard / general terms of enquiry.
- b) Any other Standard terms and Conditions of the bidder attached / referred against the tender enquiry will be treated as null and void ab initio.
- c) 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>
- d) 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.
- e) "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;
 1. **Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
 2. **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

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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	
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111	31074258111 00 00			HW1041801963	AA10401	5.0
2(2)	PLATE				~P265GH	
MF	DR					
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4(4)	JOINT FLANGE				~P265GH+Z15	
MF	DR					
121	21074258121 00 00			HW1041801998	AA10401	121.0
2(2)	PLATE				~P265GH	
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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
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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
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:

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1(1)	RING				~P265GH+Z15	
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1(1)	PIPE				~P265GH	
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MF						
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2(2)	ANCHOR				16MO3	
MF		DR				
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4(4)	JOINT FLANGE					
FI		DR				
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2(2)	JOINT FLANGE				~P265GH+Z15	
FE		DR				
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2(2)	HALF RING				~P265GH	
MF		DR				
208	31074258108 00 00			AA1041801289	AA10401	2190.0
2(2)	HALF RING				~P265GH	
MF		DR				
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MF		DR				
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MF		DR				
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MF		DR				
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4(4)	JOINT FLANGE				~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
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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
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MF	DR					
218			31074258218 00 00	AA1041801220	AA10401	4.8
2(2)			PLATE		~P265GH	
MF	DR					
219			31074258219 00 00	AA1041801220	AA10401	4.8
2(2)			PLATE		~P265GH	
MF	DR					
220			31074258220 00 00	AA1041801238	AA10401	21.4
2(2)			PLATE		~P265GH	
MF	DR					
231			31074258231 00 00	AA1041801076	AA10401	81.4
2(2)			PIPE		~P265GH	
MF	DR					
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2(2)			PLATE		~P265GH	
MF	DR					
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MF	DR					
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4(4)			PIPE		~P265GH	
MF	DR					
239			41074258239 00 00	AA1041801211	AA10401	4.1
4(4)			RIB		~P265GH	
MF	DR					
242			21074232242 00 00	HW1041801998	AA10401	183.0
2(2)			PLATE		P265GH+Z15	
MF	DR					
253			41074258253 00 00	AA1011819023	AA10119	4.82
4(4)			BACKING PLATE		~235JR	
MF	DR					
255			31074258255 00 00	AA1041801246	AA10401	13.4
2(2)			PLATE		~P265GH	
MF	DR					
256			31074258156 00 00	HW1050268091	HW10568	15.3
2(2)			ANCHOR		16MO3	
MF	DR					
257			31074258157 00 00	HW1055276025	AA19341	74.5
4(4)			JOINT FLANGE		~P265GH+Z15	
FI	DR					
258			41074258258 00 00	AA1011819023	AA10119	4.81
4(4)			BACKING PLATE		~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

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
259			31074258259 00 00	HW1041801998	AA10401	127.3
1(1)			PLATE		P265GH+Z15	
MF		DR				

BOM - 91074232000 00

ENGG

Initial Date

Worked By stegd1 05.01.2017
Checked By stegd1 06.01.2017
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	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight
Qty(Total)	Description				Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description		GRP	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 stegd1 04.10.2017

Checked By stegd1 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
Description: LP INNER CASING INLET FAB LP-2 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
148	41074258148 00			AA1010209248	AA10109	3.5
3(3)	CONNECTION				~P265GH	
MF	DR					
149	21074258149 00			AA1041801181	AA10401	185.0
1(1)	BLOCK FLANGE				~P265GH	
MF	DR					
150	41074258150 00			AA1041801297	AA10401	536.0
1(1)	RING				~P265GH+Z15	
MF	DR					
151	31074258151 00			HW1041801998	AA10401	148.0
1(1)	PIPE				~P265GH	
MF	DR					
152	41074258152 00			W97310742044		0.92
30(30)	HEXAGON HEAD SCREW (M30*130)				PROPERTY CLASS: 5.6	
BO	DR					
153	41074258153 00			AA1011819023	AA10119	3.5
8(8)	BACKING PLATE				~S235JR	
MF						
156	31074258156 00			HW1050268091	HW10568	15.3
2(2)	ANCHOR				16MO3	
MF	DR					
157	31074258157 00			HW1055276025	AA19341	74.5
4(4)	JOINT FLANGE				~P265GH+Z15	
FI	DR					
202	31074258102 00			W95310742093		1181.0
2(2)	JOINT FLANGE				~P265GH+Z15	
FE	DR					
205	31074258105 00			AA1041801483	AA10401	564.0
2(2)	HALF RING				~P265GH	
MF	DR					
208	31074258208 00			AA1041801289	AA10401	1972.0
2(2)	HALF RING				P265GH+Z15	
MF	DR					
209	31074258109 00			HW1050268083	HW10568	12.2
8(8)	ANCHOR				16MO3	
MF	DR					
211	11074232211 00			HW1041801998	AA10401	3327.0
1(1)	ENCLOSURE PLATE				P265GH+Z15	
MF	DR					
212	31074258212 00			AA1041801181	AA10401	668.0
2(2)	HALF CONE				~P265GH	
MF	DR					
213	21074258213 00			AA1041801157	AA10401	557.0
2(2)	HALF CONE				~P265GH	
MF	DR					
214	41074258114 00			AA1041801335	AA10401	50.1
4(4)	JOINT FLANGE				~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
Description: LP INNER CASING INLET FAB LP-2 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
216			21074258216 00	AA1041801076	AA10401	156.0
2(2)			PIPE		~P265GH	
MF	DR					
217			21074258217 00	AA1041801076	AA10401	156.0
2(2)			PIPE		~P265GH	
MF	DR					
218			31074258218 00	AA1041801220	AA10401	4.8
2(2)			PLATE		~P265GH	
MF	DR					
219			31074258219 00	AA1041801220	AA10401	4.8
2(2)			PLATE		~P265GH	
MF	DR					
220			31074258220 00	AA1041801238	AA10401	21.4
2(2)			PLATE		~P265GH	
MF	DR					
231			31074258231 00	AA1041801076	AA10401	81.4
2(2)			PIPE		~P265GH	
MF	DR					
234			21074258234 00	AA1041801076	AA10401	33.4
2(2)			PLATE		~P265GH	
MF	DR					
235			21074258235 00	AA1041801076	AA10401	33.4
2(2)			PLATE		~P265GH	
MF	DR					
238			31074258238 00	AA1041801076	AA10401	33.4
4(4)			PIPE		~P265GH	
MF	DR					
239			41074258239 00	AA1041801211	AA10401	4.1
4(4)			RIB		~P265GH	
MF	DR					
242			21074232242 00	HW1041801998	AA10401	183.0
2(2)			PLATE		P265GH+Z15	
MF	DR					
253			41074258253 00	AA1011819023	AA10119	4.82
4(4)			BACKING PLATE		~235JR	
MF	DR					
255			31074258255 00	AA1041801246	AA10401	13.4
2(2)			PLATE		~P265GH	
MF	DR					
256			31074258156 00	HW1050268091	HW10568	15.3
2(2)			ANCHOR		16MO3	
MF	DR					
257			31074258157 00	HW1055276025	AA19341	74.5
4(4)			JOINT FLANGE		~P265GH+Z15	
FI	DR					
258			41074258258 00	AA1011819023	AA10119	4.81
4(4)			BACKING PLATE		~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		HW1041801998	AA10401	127.3
1(1)	PLATE				P265GH+Z15	
MF	DR					

BOM - 91074232500 00

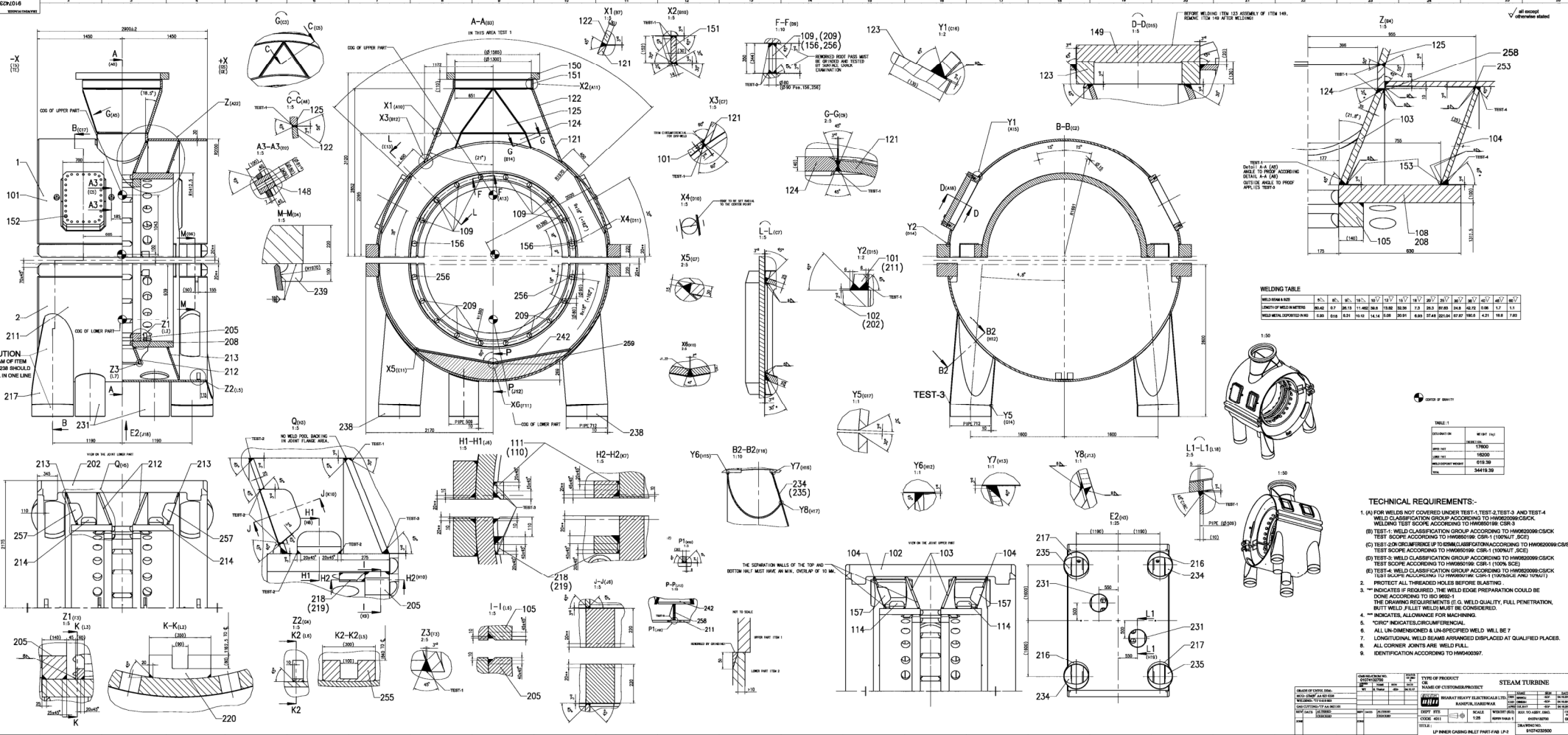
ENGG

Initial Date

Worked By stegd1 04.10.2017

Checked By stegd1 04.10.2017

Approved By stedkr 13.10.2017



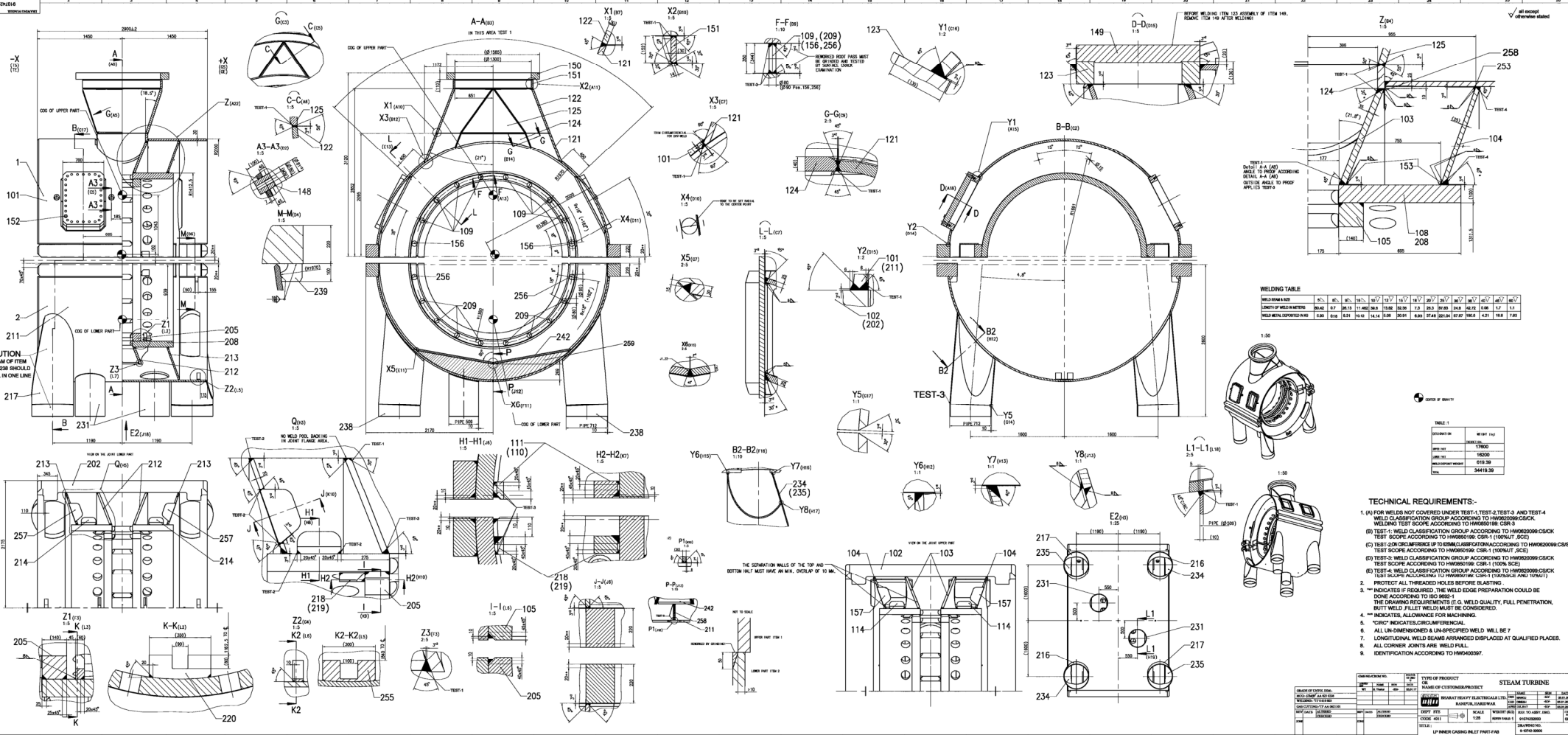
CAUTION
WELD BEAM OF ITEM
NO.217 & 238 SHOULD
NOT FALL IN ONE LINE

WELDING TABLE

WELDING ROD	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230
LENGTH OF WELD METERS	0.042	0.7	28.13	11.482	26.5	13.82	10.239	7.3	28.3	25.81	24.5	42.72	1.06	1.7	1.1	
WELD METERS ACCORDING TO	0.06	0.01	0.31	10.16	14.14	10.26	20.31	6.89	17.64	20.164	17.87	10.2	4.21	1.8	7.83	

- TECHNICAL REQUIREMENTS:-
- (A) FOR WELD NOT COVERED UNDER TEST-1, TEST-3, TEST-3 AND TEST-4 WELD CLASSIFICATION GROUP ACCORDING TO HW60209/CS/CK WELDING TEST SCORES ACCORDING TO HW6019/CS/1
 - (B) TEST-1: WELD CLASSIFICATION GROUP ACCORDING TO HW60209/CS/CK TEST SCORES ACCORDING TO HW6019/CS/1 (100%UT, SCE)
 - (C) TEST-3: WELD CLASSIFICATION GROUP ACCORDING TO HW60209/CS/CK TEST SCORES ACCORDING TO HW6019/CS/1 (100%UT, SCE)
 - (D) TEST-4: WELD CLASSIFICATION GROUP ACCORDING TO HW60209/CS/CK TEST SCORES ACCORDING TO HW6019/CS/1 (100%UT, SCE)
 - (E) TEST-5: WELD CLASSIFICATION GROUP ACCORDING TO HW60209/CS/CK TEST SCORES ACCORDING TO HW6019/CS/1 (100%UT, SCE)
 - PROTECT ALL THREADED HOLES BEFORE BLASTING.
 - ** INDICATES IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9855-1
 - THE DRAWING REQUIREMENTS (E.G. WELD QUALITY, FULL PENETRATION, BUTT WELD FILLET WELD) MUST BE CONSIDERED.
 - ** INDICATES ALLOWANCE FOR MACHINING
 - **CIRC** INDICATES CIRCUMFERENTIAL
 - ALL DIMENSIONS & UN-SPRINTED WELD WILL BE 7
 - LONGITUDINAL WELD BEAMS ARRANGED DISPLACED AT QUALIFIED PLACES.
 - ALL CORNER JOINTS ARE WELD FULL.
 - IDENTIFICATION ACCORDING TO HW60209/2.

DATE	BY	CHKD	APPD	TYPE OF PRODUCT	NAME OF CUSTOMER/PROJECT
01/01/2010	STEAM TURBINE	...



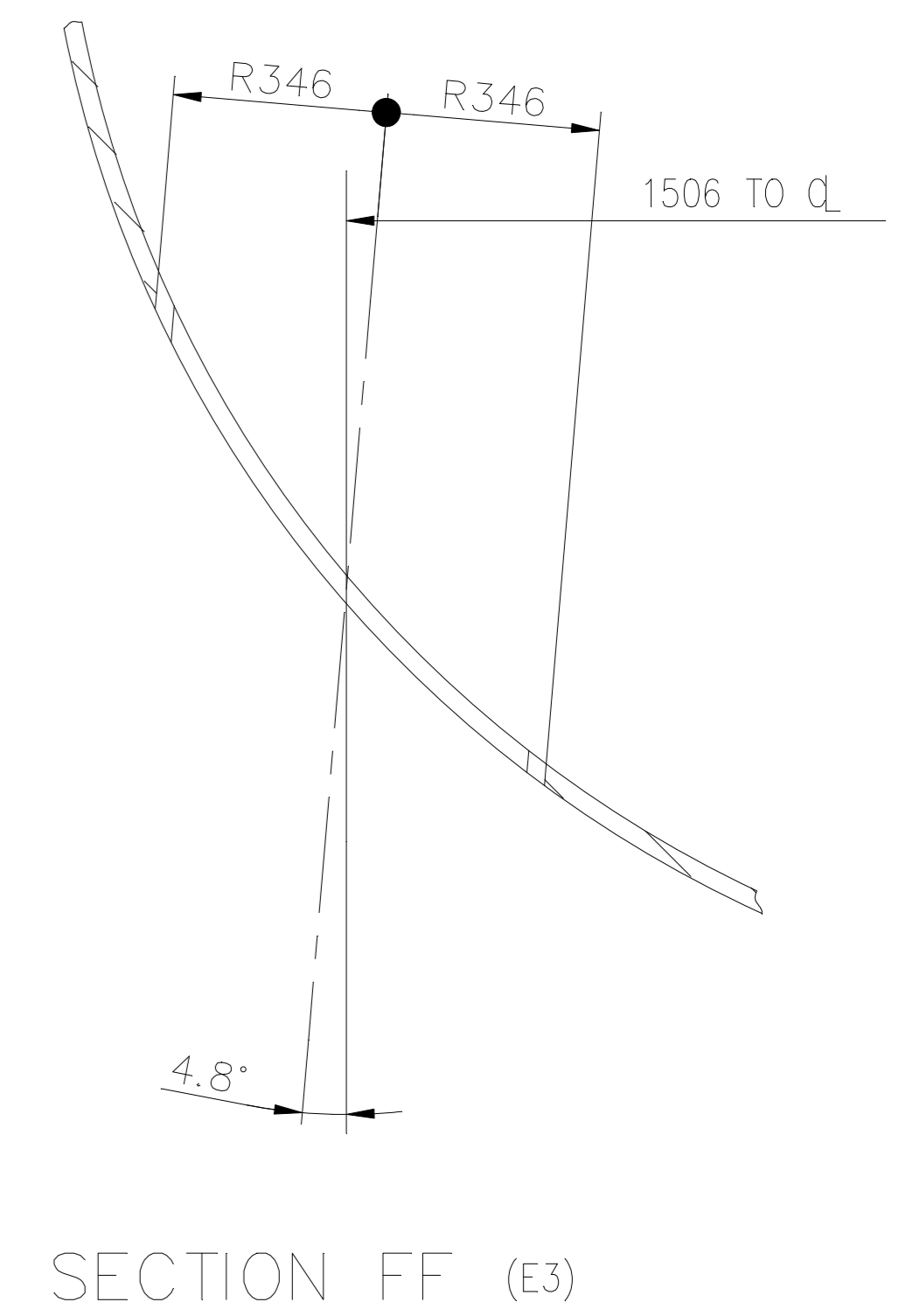
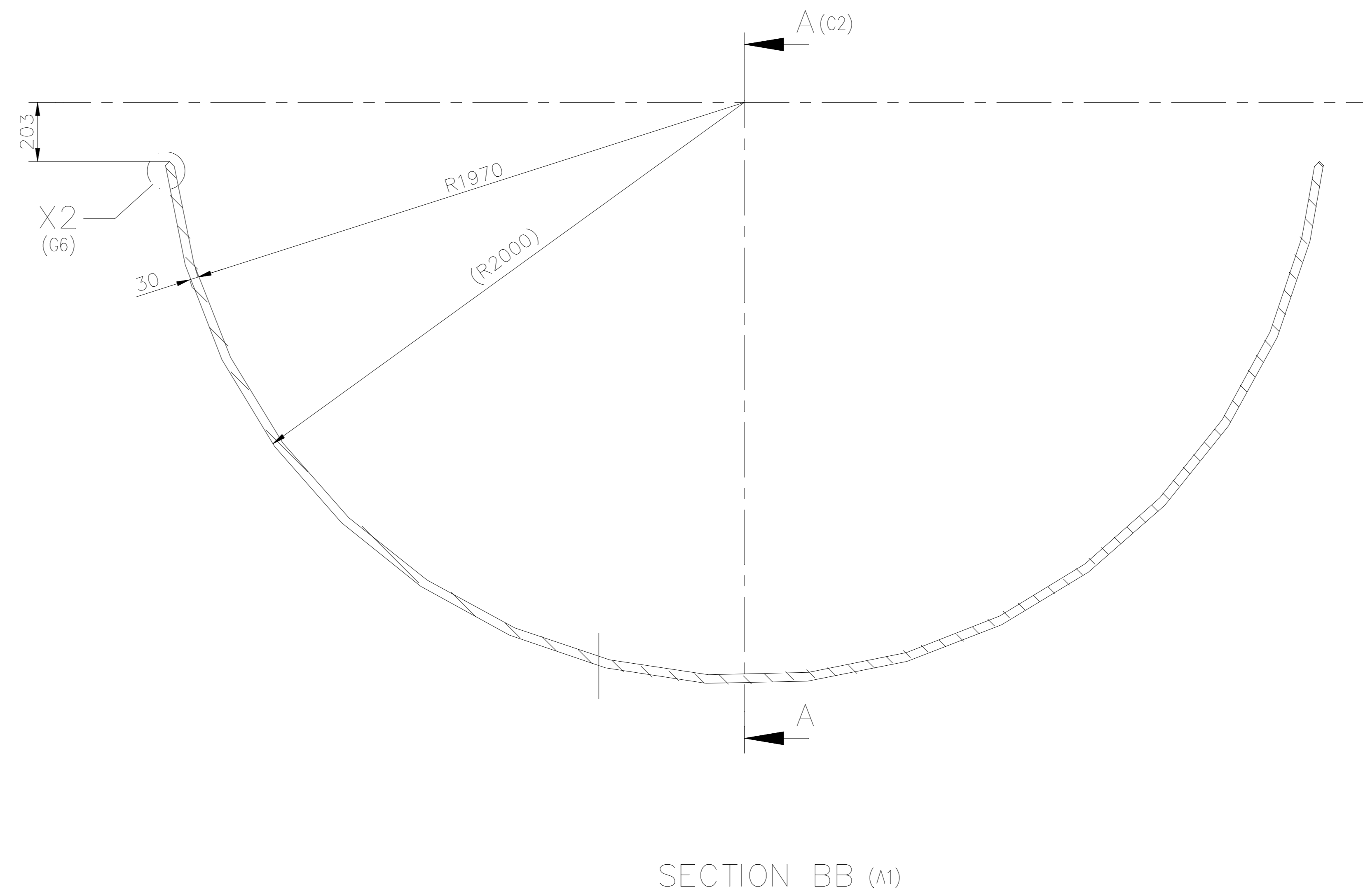
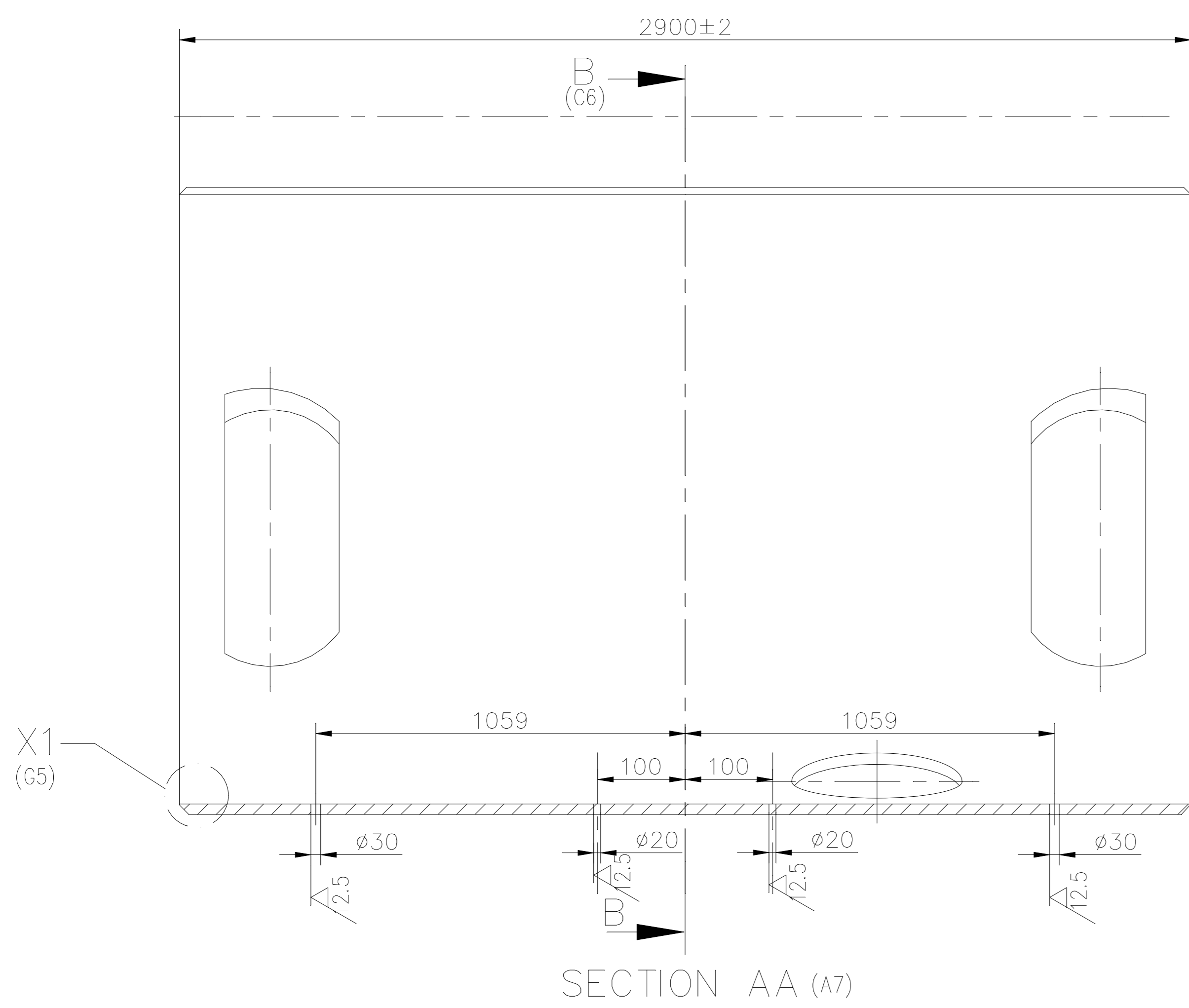
CAUTION
WELD BEAM OF ITEM
NO.217 & 238 SHOULD
NOT FALL IN ONE LINE

WELDING TABLE

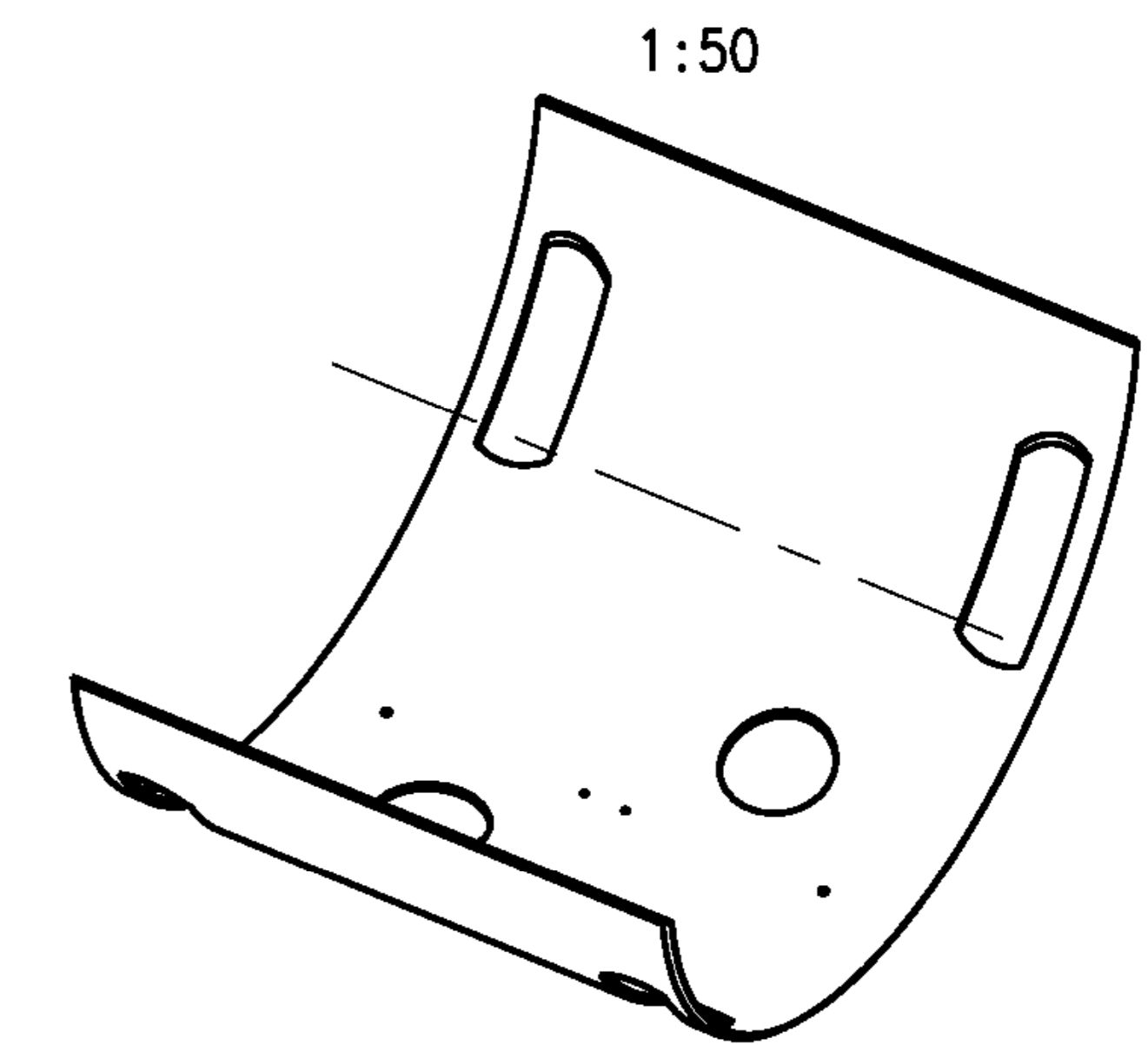
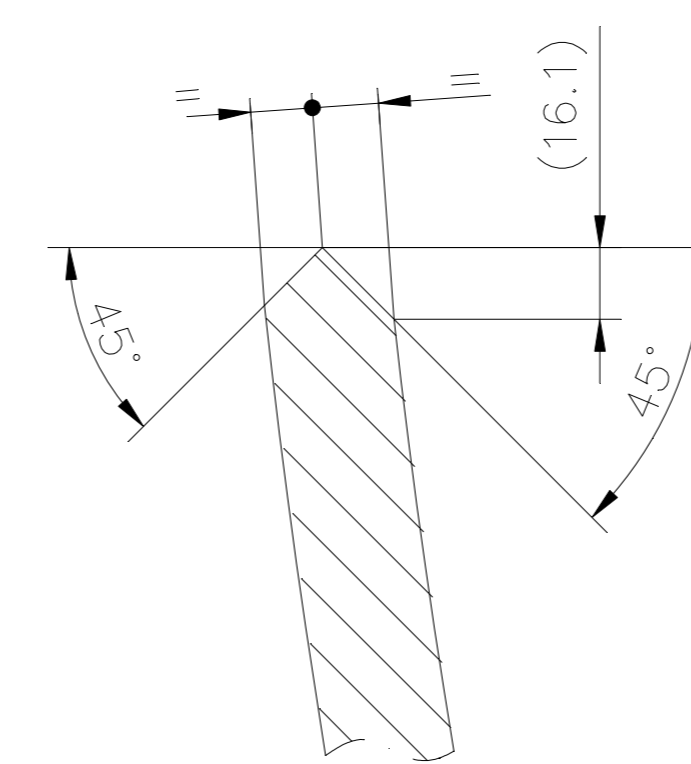
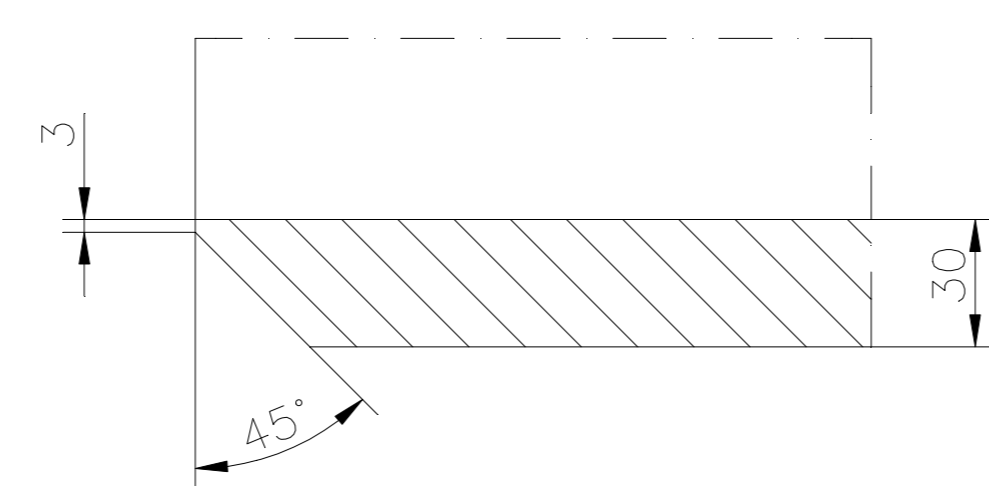
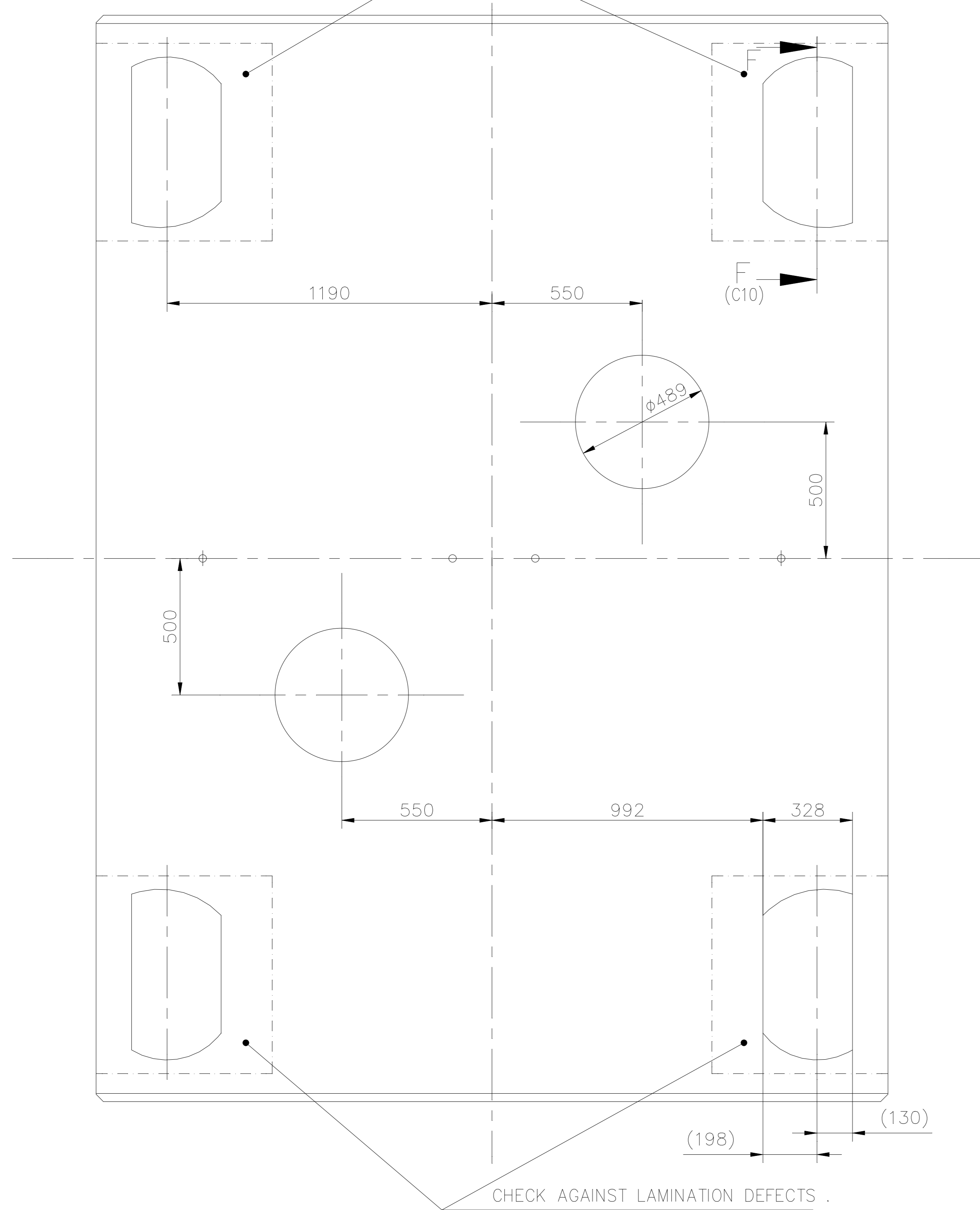
WELDING ROD	21/2	25/32	3/8	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10	
LENGTH OF WELD METERS	0.042	0.7	0.813	1.1402	1.676	2.382	3.266	4.329	5.571	7.002	8.623	10.434	12.436	14.628	17.011	19.585	22.351	25.308	28.457	31.800	35.338	39.071	42.999	47.122	51.441	55.955	
WELD METERS CORRECTED IN IN	0.006	0.011	0.012	0.016	0.023	0.031	0.040	0.051	0.063	0.077	0.092	0.108	0.125	0.143	0.162	0.182	0.203	0.225	0.248	0.272	0.297	0.323	0.349	0.376	0.403	0.431	0.459

- TECHNICAL REQUIREMENTS:-
- (A) FOR WELD NOT COVERED UNDER TEST-1, TEST-3, TEST-3 AND TEST-4 WELD CLASSIFICATION GROUP ACCORDING TO HW60509/CSICK WELDING TEST SCORES ACCORDING TO HW60509/CSICK
 - (B) TEST-1 WELD CLASSIFICATION GROUP ACCORDING TO HW60509/CSICK TEST SCORES ACCORDING TO HW60509/CSICK-1 (100% SIZE)
 - (C) TEST-3 ON GROUND SURFACE TO BE QUALIFIED ACCORDING TO HW60509/CSICK TEST SCORES ACCORDING TO HW60509/CSICK-1 (100% SIZE)
 - (D) TEST-4 WELD CLASSIFICATION GROUP ACCORDING TO HW60509/CSICK TEST SCORES ACCORDING TO HW60509/CSICK-1 (100% SIZE)
 - (E) TEST-5 WELD CLASSIFICATION GROUP ACCORDING TO HW60509/CSICK TEST SCORES ACCORDING TO HW60509/CSICK-1 (100% SIZE)
 - PROTECT ALL THREADED HOLES BEFORE BLASTING.
 - ** INDICATES IF REQUIRED, THE WELD EDGE PREPARATION COULD BE DONE ACCORDING TO ISO 9855-1
 - THE DRAWING REQUIREMENTS (E.G. WELD QUALITY, FULL PENETRATION, BUTT WELD FILLET WELD) MUST BE CONSIDERED.
 - ** INDICATES ALLOWANCE FOR MACHINING
 - **CIRC** INDICATES CIRCUMFERENTIAL
 - ALL DIMENSIONS & UN-SPRINTED WELD WILL BE 7
 - LONGITUDINAL WELD BEAMS ARRANGED DISPLACED AT QUALIFIED PLACES.
 - ALL CORNER JOINTS ARE WELD FULL.
 - IDENTIFICATION ACCORDING TO HW60509/2.

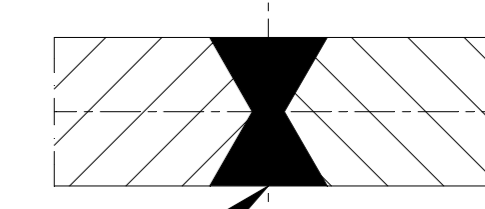
DATE	BY	CHKD	APP'D	TYPE OF PRODUCT	NAME OF CUSTOMER/PROJECT
19/02/2016	STEAM TURBINE	...



CHECK AGAINST LAMINATION DEFECTS .



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



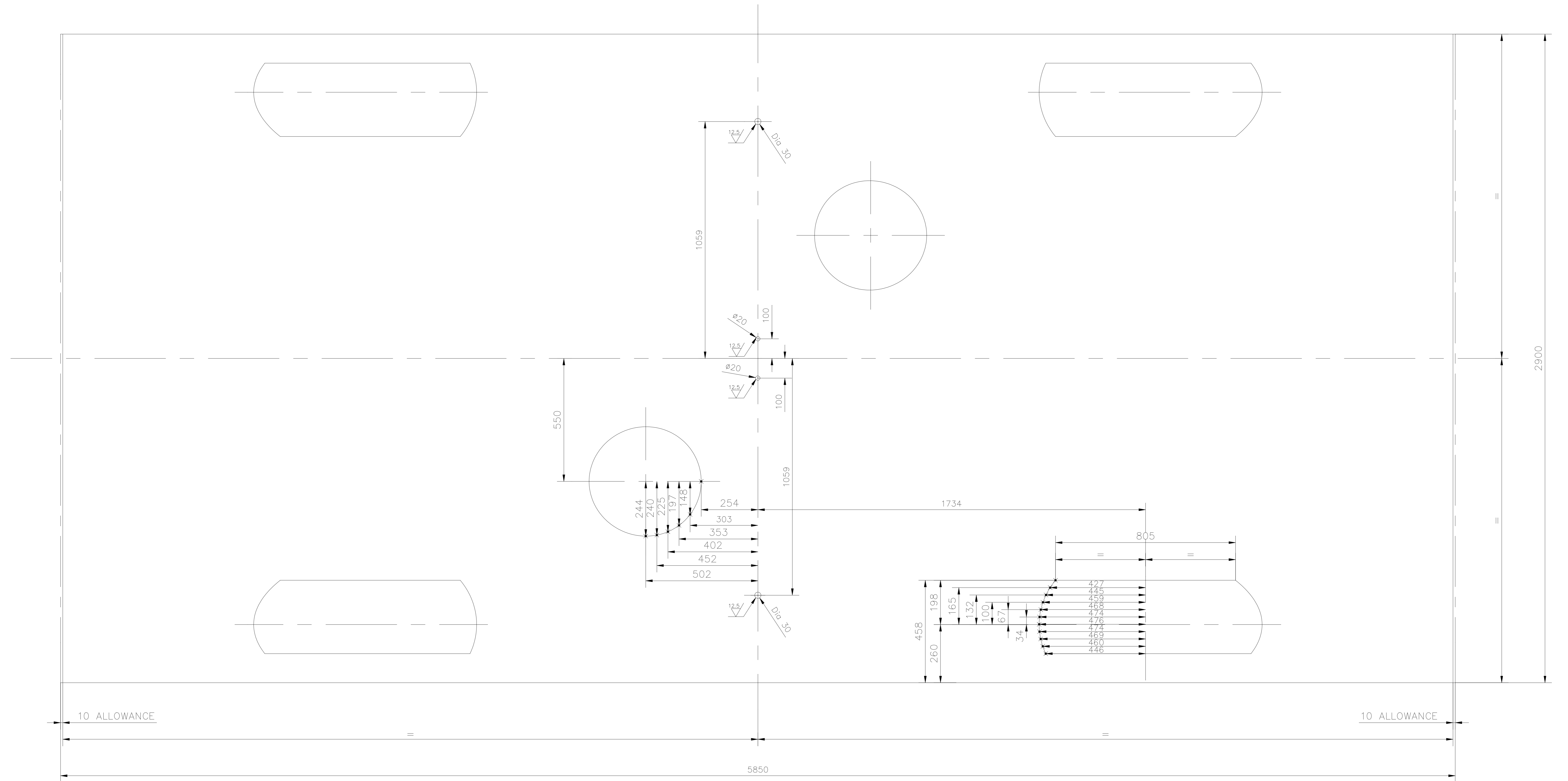
DETAIL: FULL PENETRATION WELD
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

TECHNICAL REQUIREMENTS: -

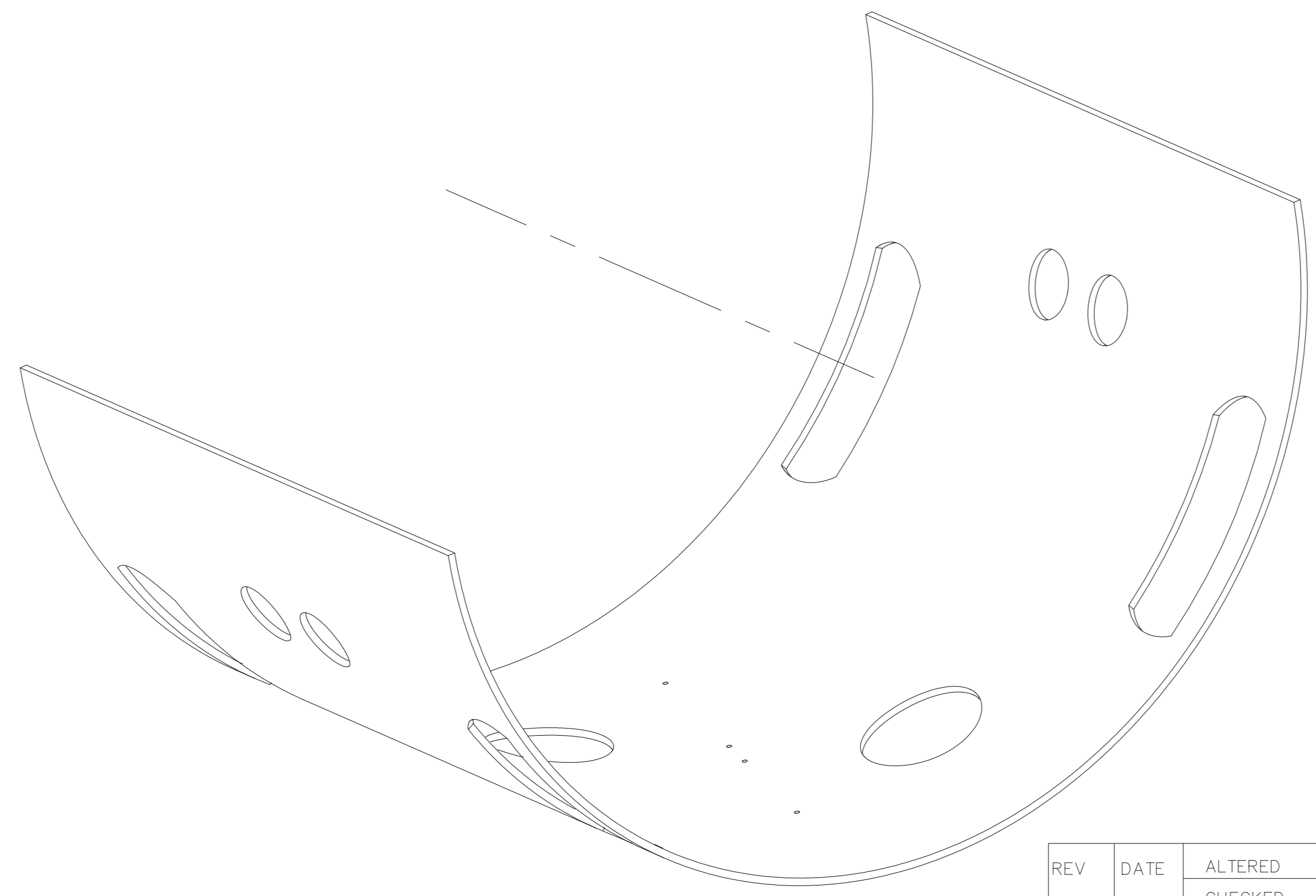
1. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
2. WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
3. IDENTIFICATION ACCORDING TO HW0400397

INVENTORY NO. SIGN. AND DATE REF. DRG. NO. DPPPFG-70128028 TIN NO. BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

GMS No. / C.B.O.M. - NO. 9-10742-32000			STATUS OF DRG			TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
AGREED DEPT	NAME	SIGN	DATE	AGREED DEPT	NAME	SIGN	DATE	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN	NAME	SIGN	DATE	NO. OF VAR
WT	S .Thakur	Sd/-	05.01.17	WT	S .Thakur	Sd/-	05.01.17	DEPT STE			CHD	DINESH	-sd-	05.01.17	73 - 74
GRADE OF UNTOL.DIM			M/CG.-Q/M/F AA0230208			SCALE			WEIGHT (KG)			REF. TO ASSY. DRG.			ITEM
WELDING - R/B/E/P AA0621104			GAS CUTTING - T3'AA0621101			1:15			3327.00			9-10742-32000			No. 211
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	TITLE :			DRAWING NO.			
		CHECKED			CHECKED			CHECKED	ENCLOSURE PLATE			1-10742-32211			-
											CARD CODE	DRAWING NO.			
												1-10742-32211			
											SHEET No. 01		No. OF SHEETS 02		



DEVELOPMENT OF ENCLOSURE PLATE



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

AGREED	NAME	SIGN	DATE
DEPT	S.Thakur	Sd/-	05.01.17

TYPE OF PRODUCT		STEAM TURBINE	
OR		NAME OF CUSTOMER/PROJECT	

DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	MONIKA	-SD/-	05.01.17	
APPD	DINESH	-SD/-	05.01.17	

DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
4011		1:10		9-10742-32000	211	75-77

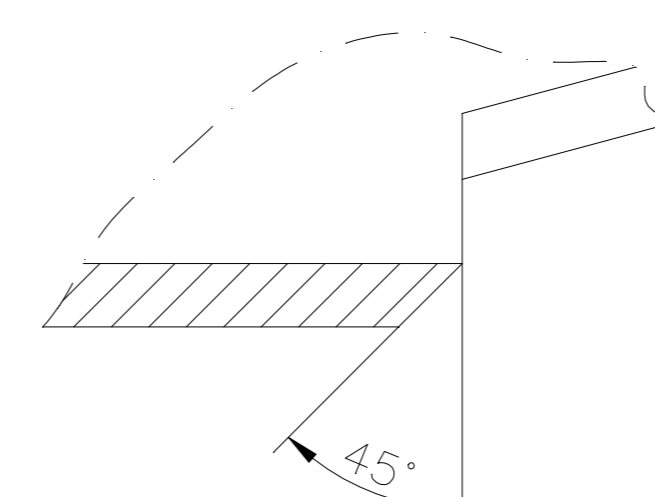
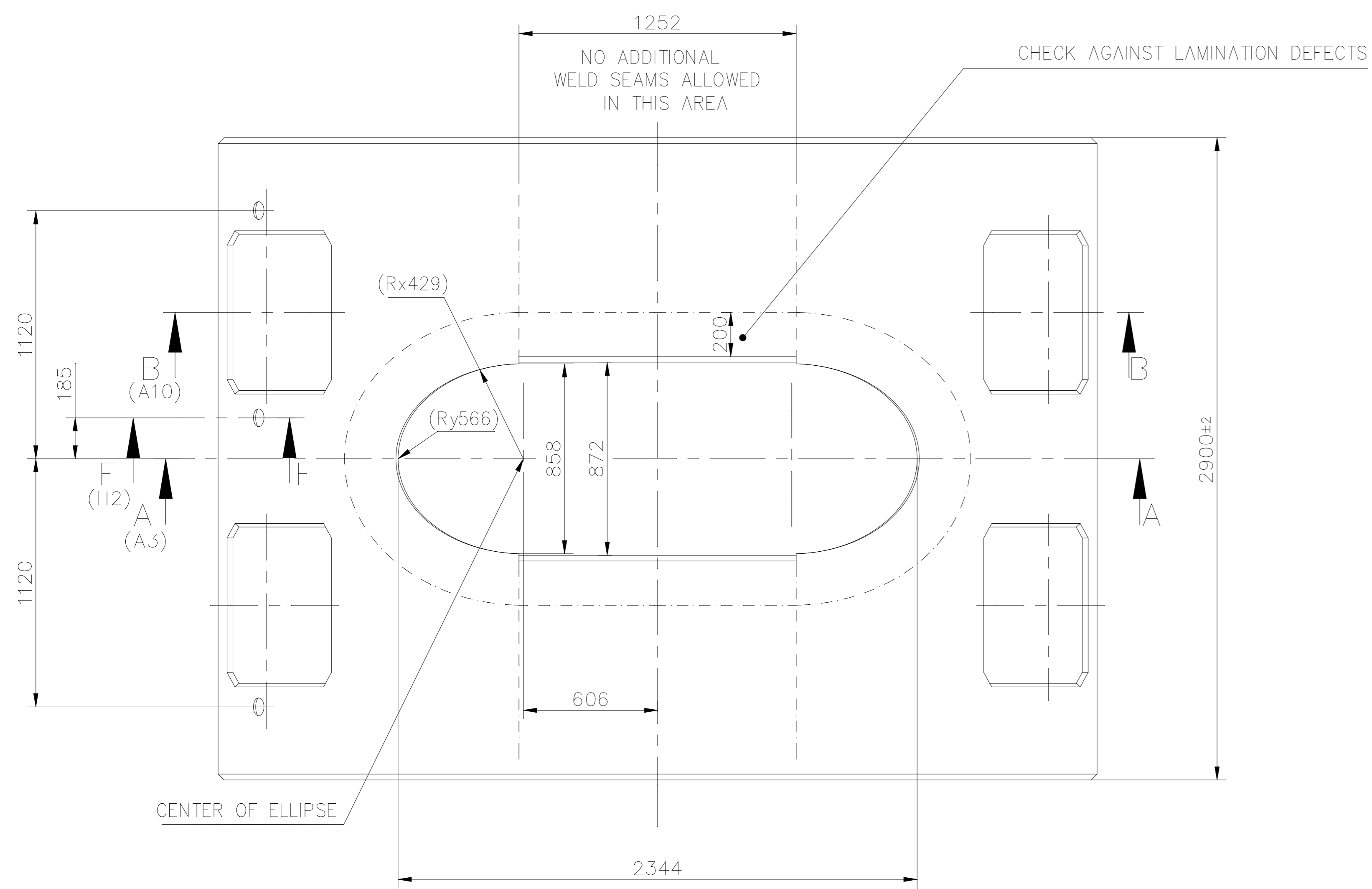
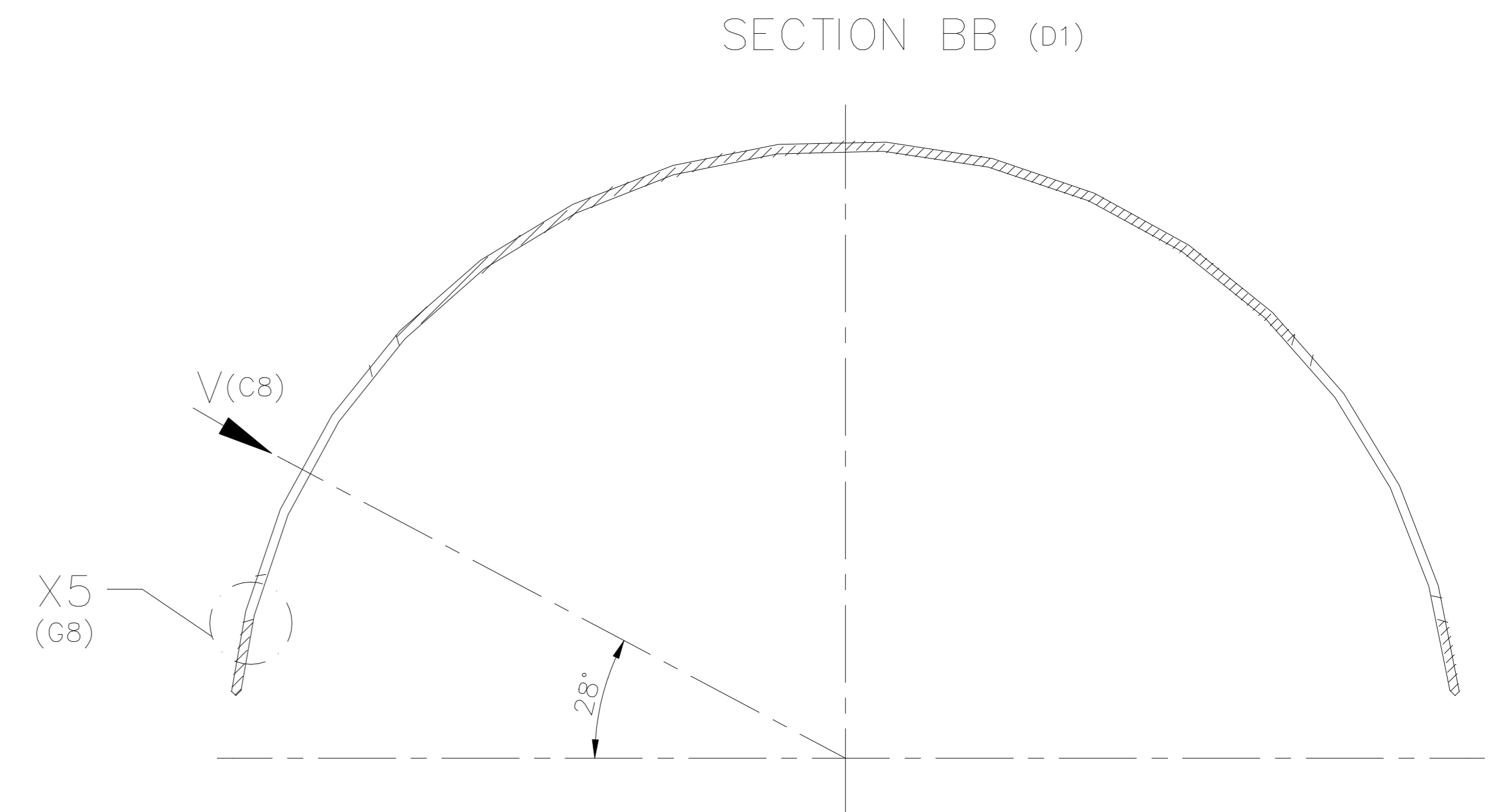
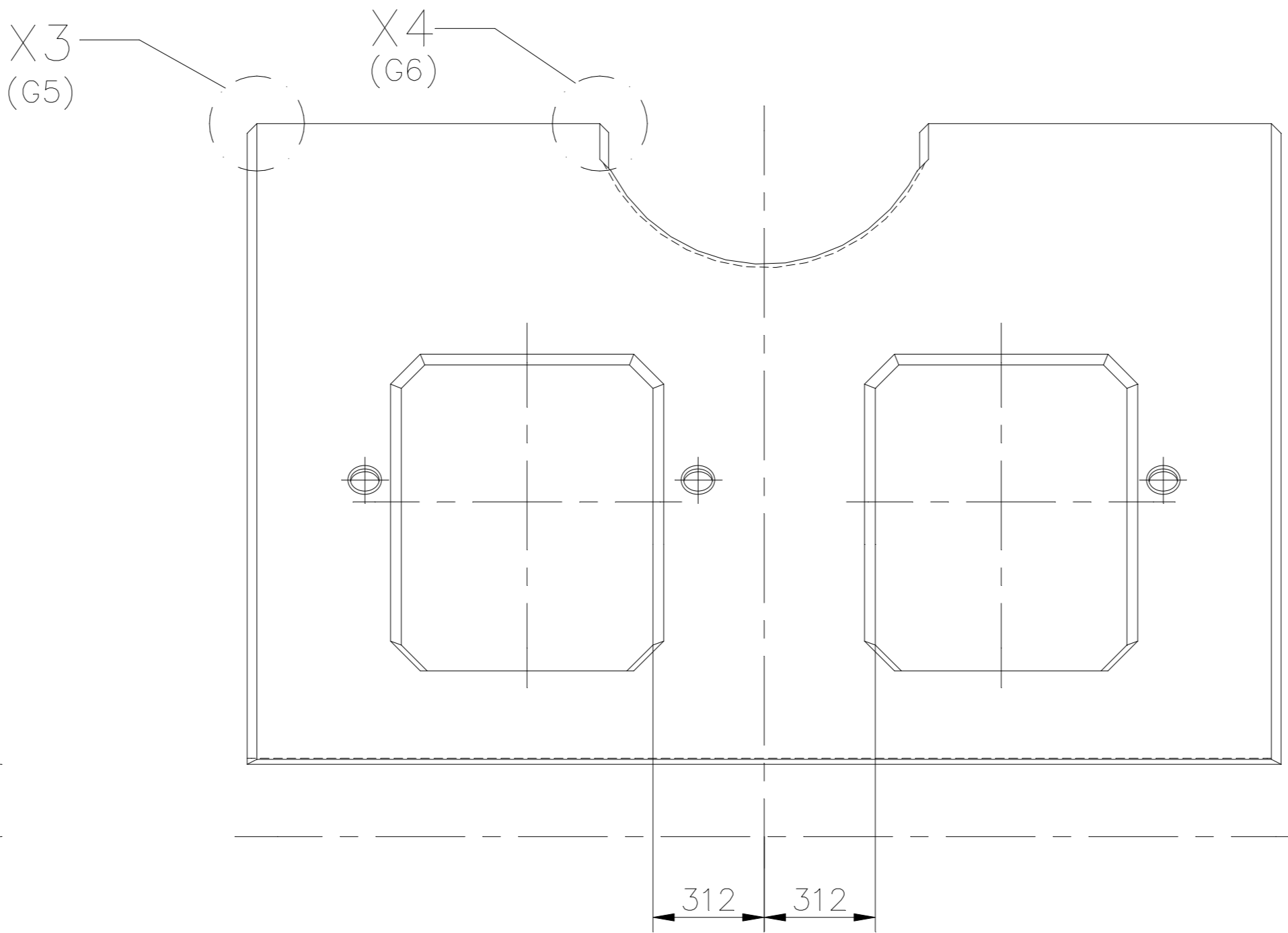
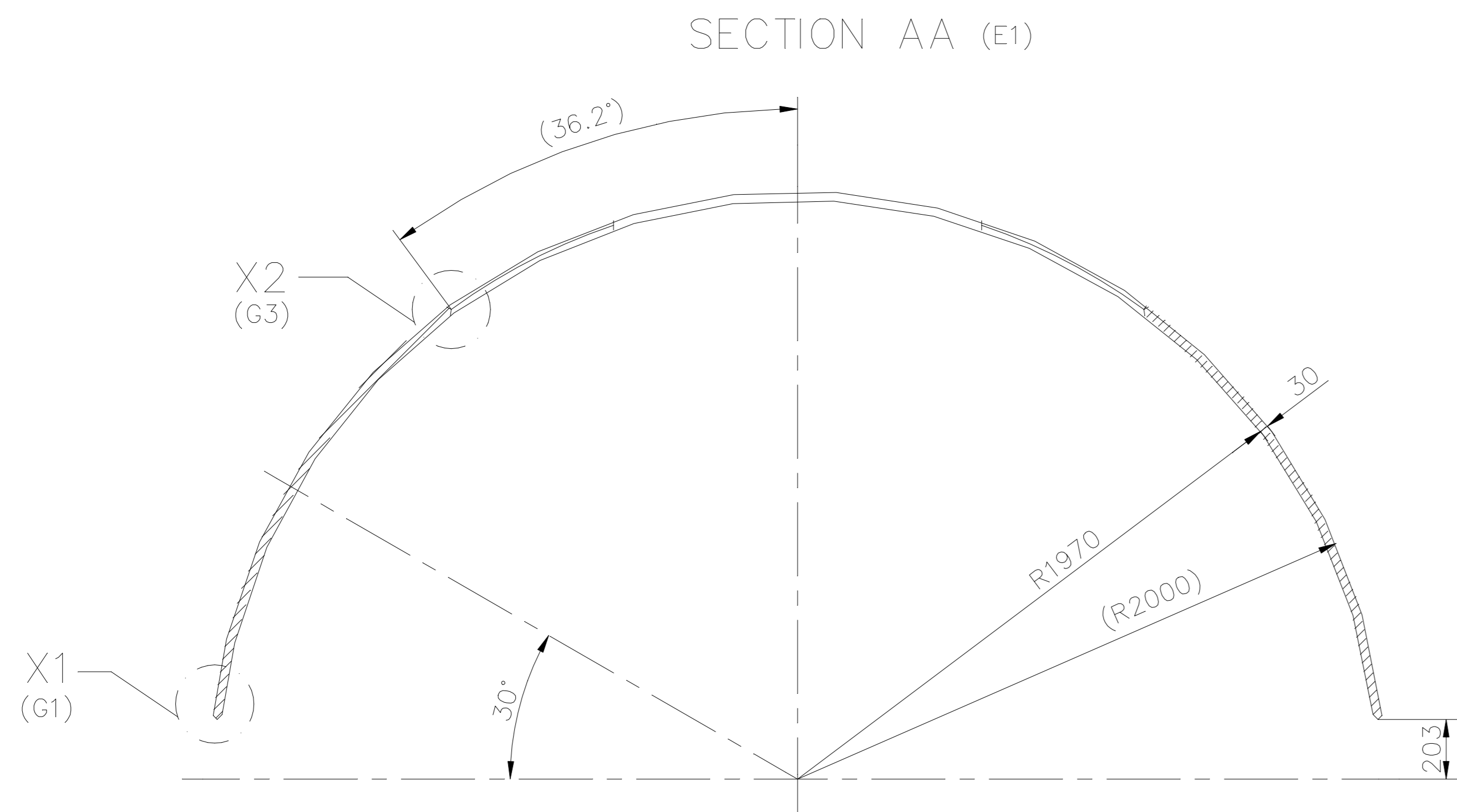
TITLE :	CARD CODE	DRAWING NO.
ENCLOSURE PLATE	7	1-10742-32211

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

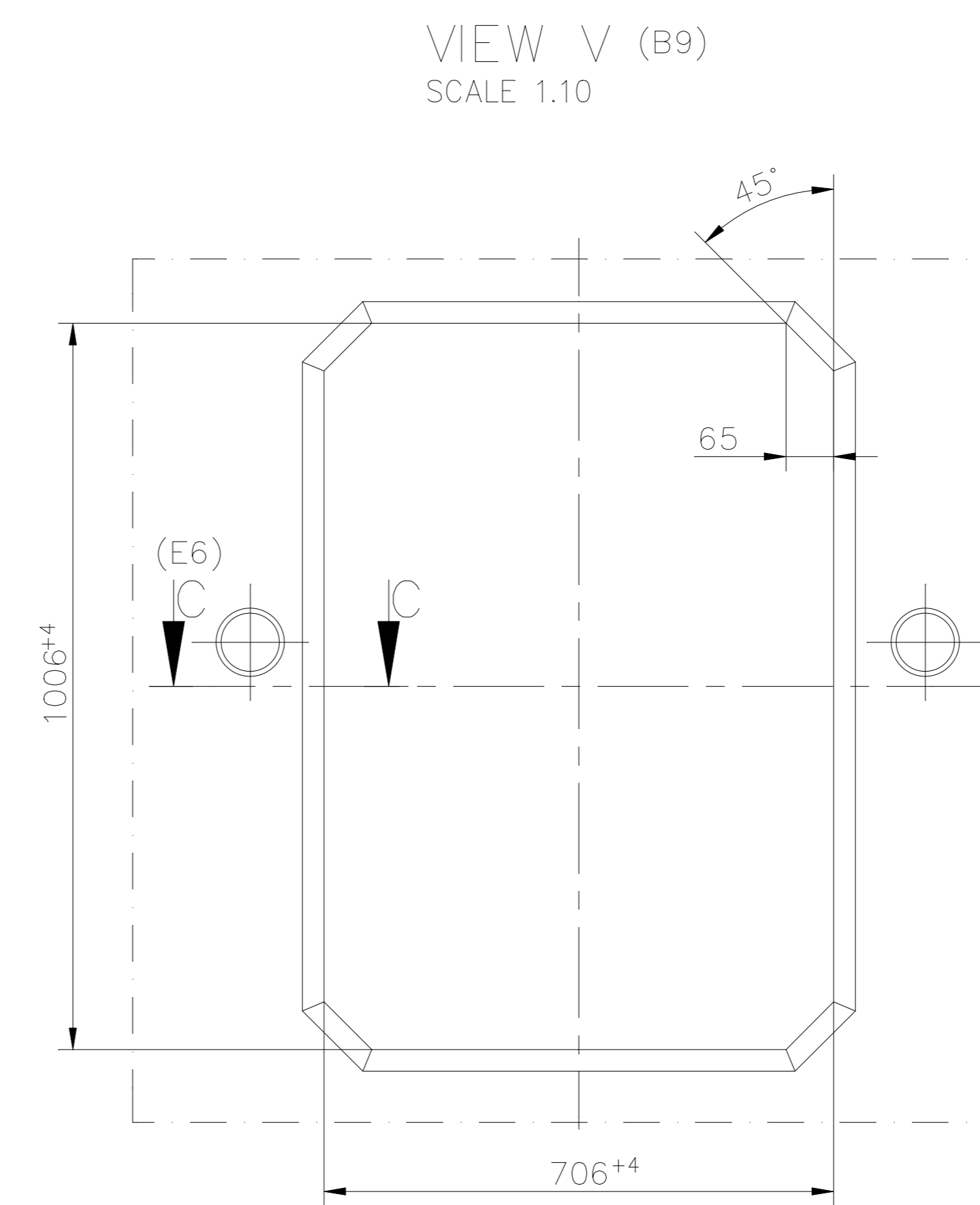
INVENTORY NO. SIGN. AND DATE REF. DRG. NO. DPPPFG-70128028 TIN NO.

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

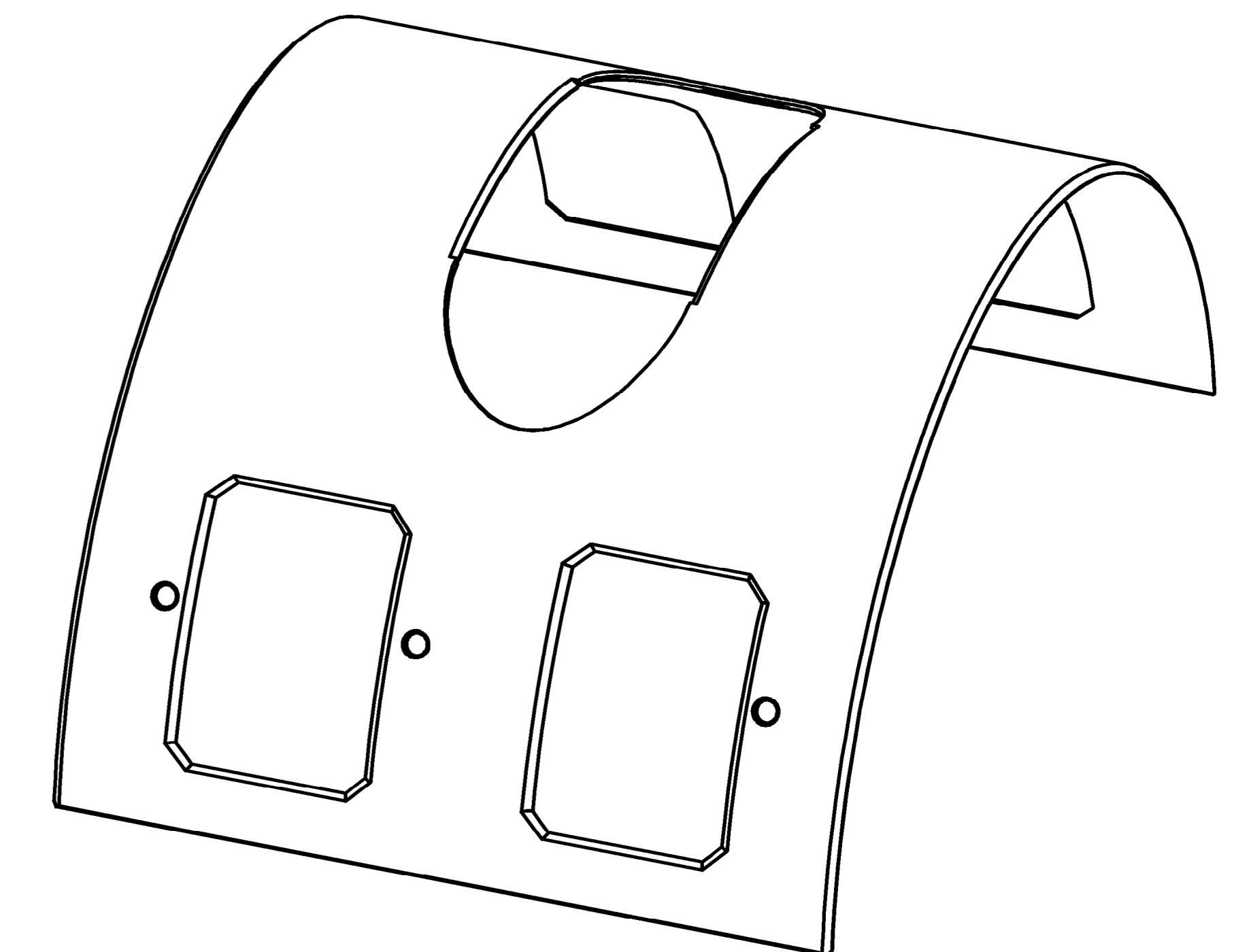
BHARAT HEAVY ELECTRICALS LIMITED.
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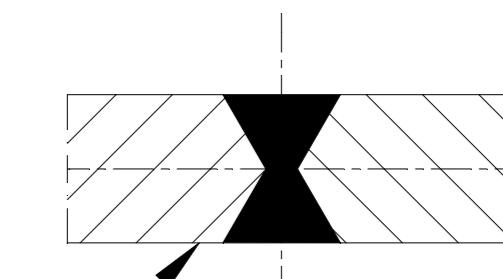
SECTION CC (D7)
SCALE 1.5



VIEW V (B9)
SCALE 1.10



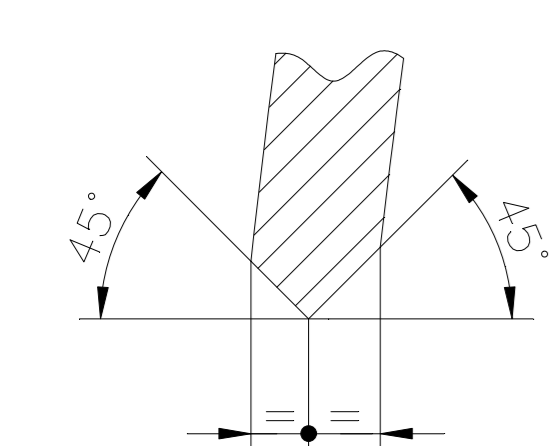
DIVIDED IN PARTS IF REQUIRED, ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELDS, PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.



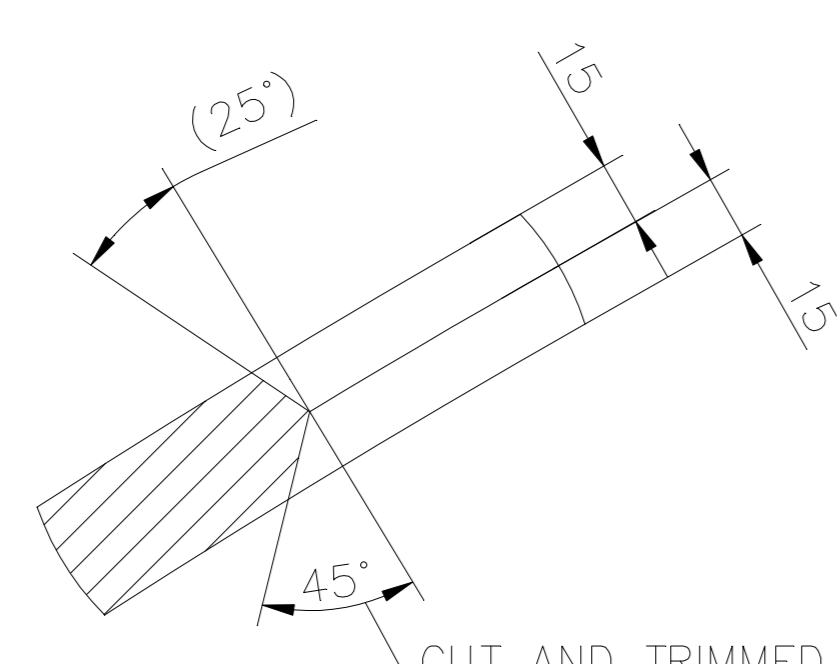
DETAIL: FULL PENETRATION WELD
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

TECHNICAL REQUIREMENTS: -

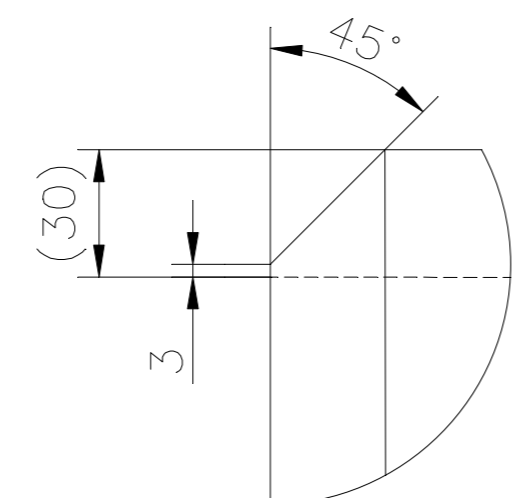
1. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
2. WELDING TEST SCOPE ACCORDING TO HW0850199: CSR-1.
3. IDENTIFICATION ACCORDING TO HW0400397



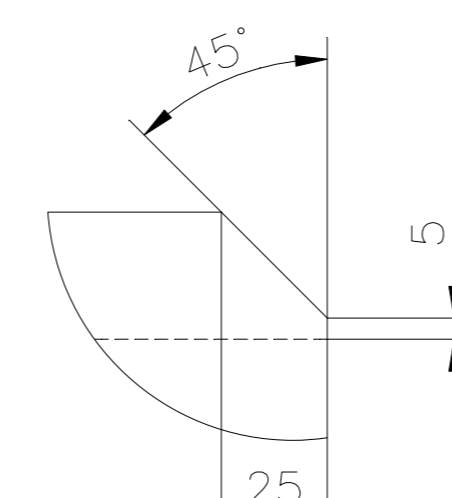
DETAIL X1 (B1)
SCALE 1.2.5



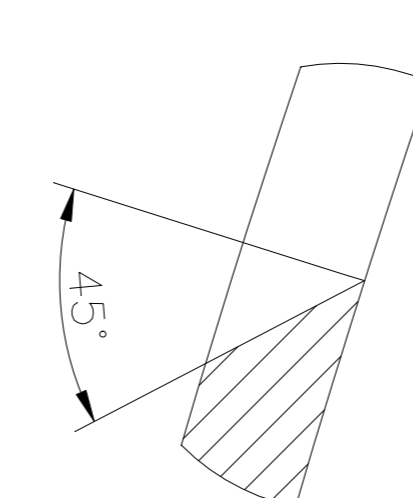
DETAIL X2 (A2)
SCALE 1.2.5



DETAIL X3 (A5)
SCALE 1.2.5



DETAIL X4 (A6)
SCALE 1.2.5

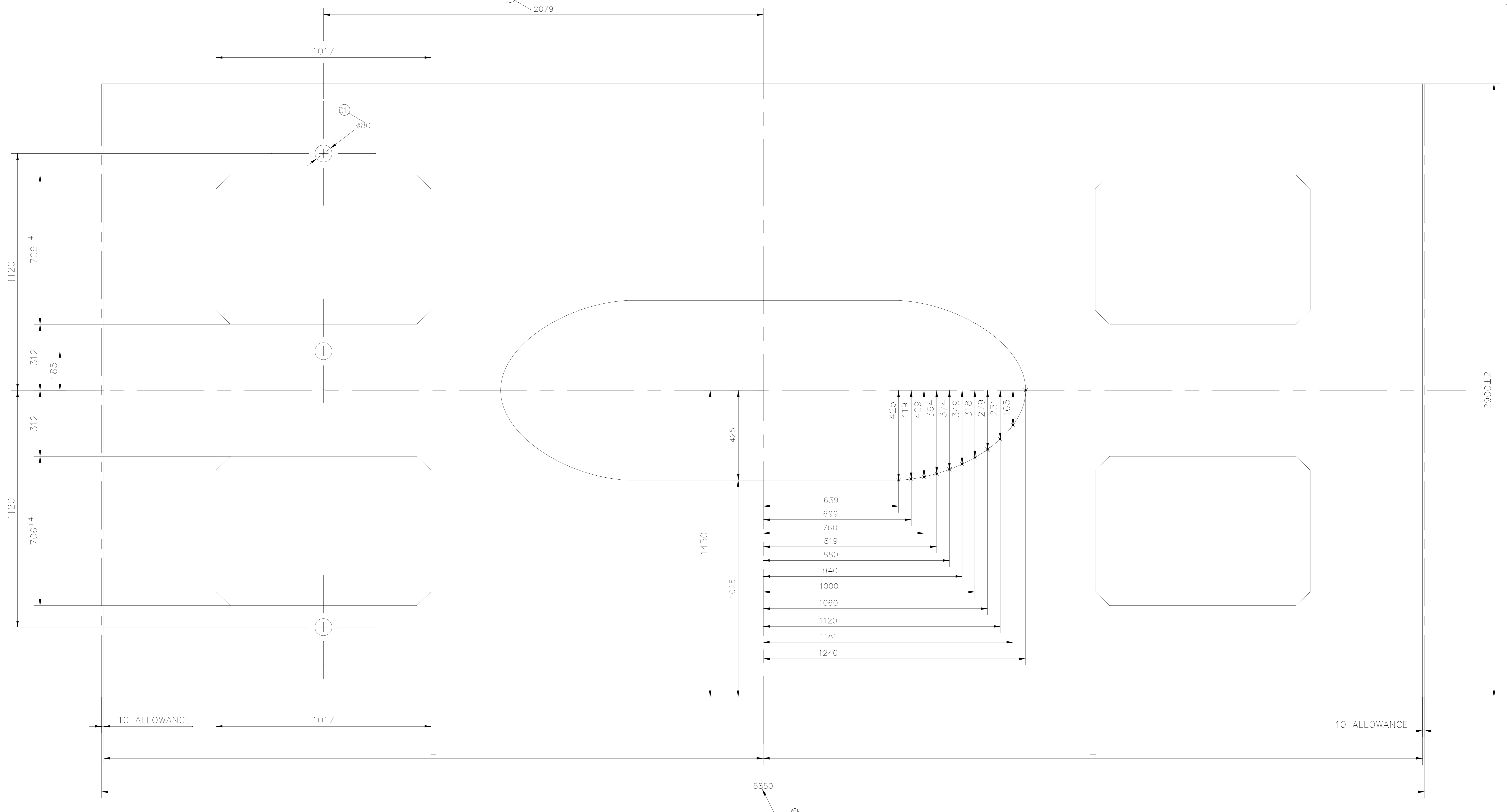


DETAIL X5 (B8)
SCALE 1.2.5

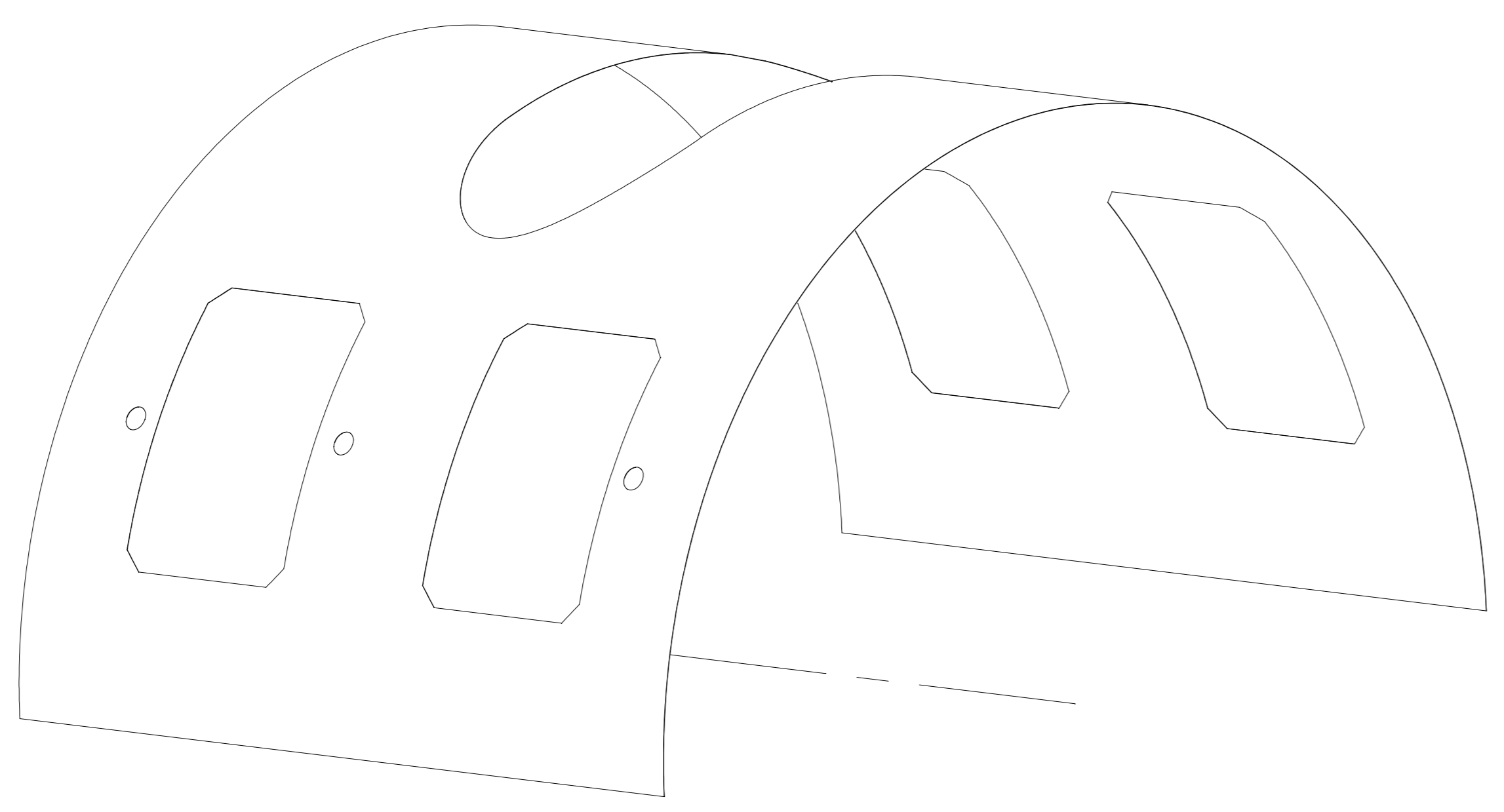
SECTION E-E (E1)
SCALE 1:5

- 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.

-GMS No./C.B.O.M.- NO. 9-10742-58000 STATUS OF PRG 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	
GRADE OF UNTOL.DIM M/CG.-C/M/F AA0230208 WELDING-A/B/C/D / AA0621104 GAS CUTTING-T3'AA0621101		DRN POONAM SD/- 18.07.2012 NO. OF VAR CHD DINESH SD/- 19.07.2012 APPD D.K.RAY SD/- 23.08.2012 73 74	
REV DATE ALTERED CHECKED 02 05.02.15 DINESH 1. IN SHEET NO.1 NO CHANGE. AS PER C\A.NO. STE-15-F0042.		DEPT STE SCALE WEIGHT (KG) REF. TO ASSY. DRG. ITEM No. NO. OF ITEMS CODE 4011 1:20 2758.00 9-10742-58000 101 75 77 TITLE : ENCLOSURE PLATE CARD CODE DRAWING NO. 1-10742-58101 SHEET No. 01 No. OF SHEETS 02	



DEVELOPMENT OF ENCLOSURE PLATE



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INVENTORY NO. SIGN. AND DATE REF. DRG. NO. DSPPG-0127017
 TIN NO. PSK046L645

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

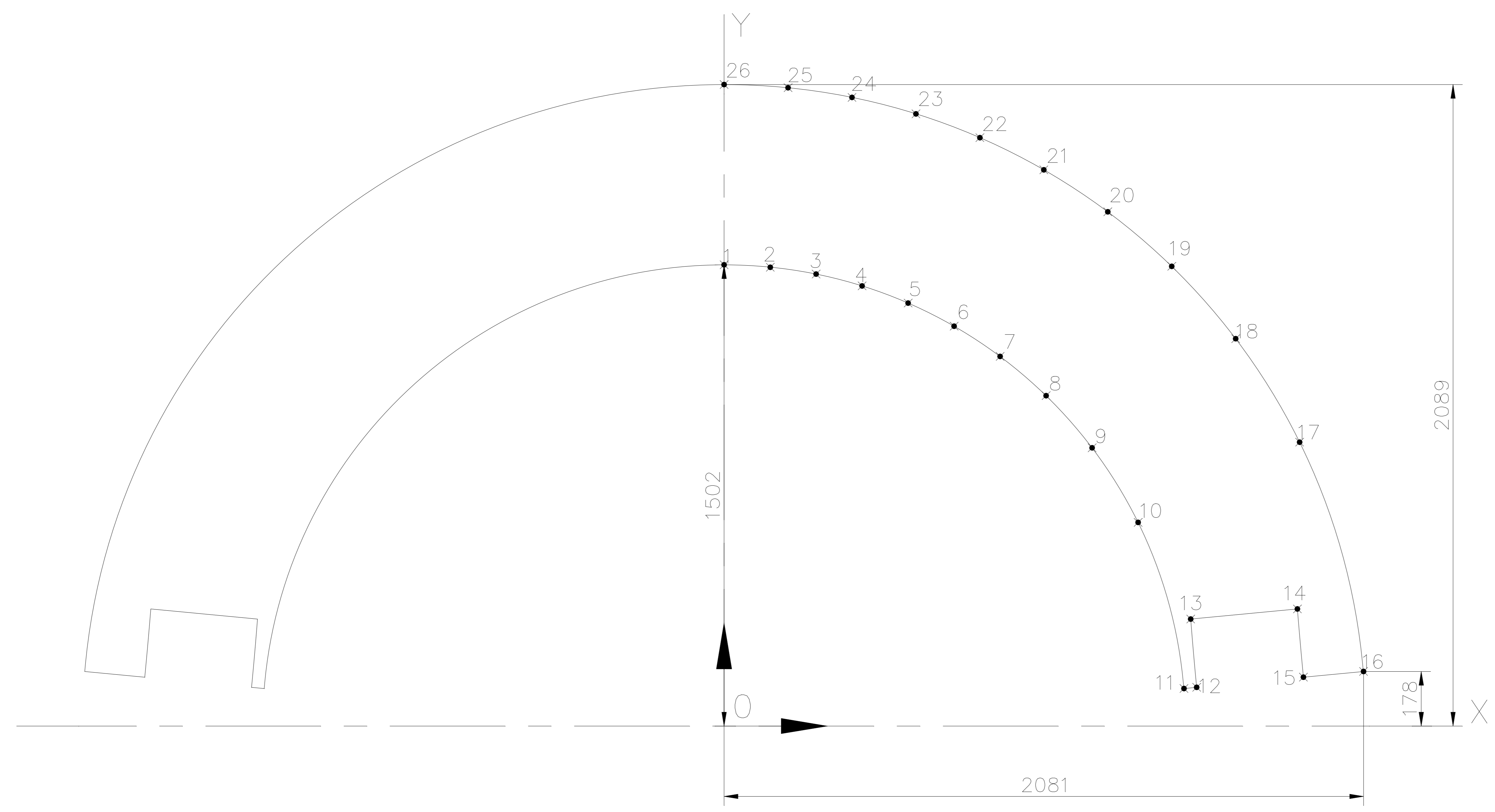
REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
02	05.02.15	CHECKED	DINESH	01	03.13	CHECKED	DINESH
1. IN SHEET NO.2 MAIN VIEW DIM.6253 CHANGE TO DIM.5850.				ø 80 & DIM. 2079 GIVEN.			
AS PER C\A.NO. STE-15-F0042.				AS PER C\A.NO. STE-13-F0139.			

EMIS No./	C.B.O.M. -	NO.	STATUS OF DRG
9-10742-58000			
APPRD	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
CHD	AFZAL KHAN	-SD/-	18.07.2012
APPD	DINESH	-SD/-	19.07.2012
	D.K.RAY	-SD/-	23.08.2012
DEPT	STE	SCALE	WEIGHT (KG)
CODE 4011		1:10	2758
TITLE :		CARD CODE	REF. TO ASSY. DRG.
ENCLOSURE PLATE		7	9-10742-58000
DRAWING NO.		ITEM No.	NO. OF ITEMS
1-10742-58101		101	75 77
SHEET No. 02		No. OF SHEETS 02	

DRAWING No. 2-10742-58104

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DEVELOPMENT OF CONE
SCALE 1:50

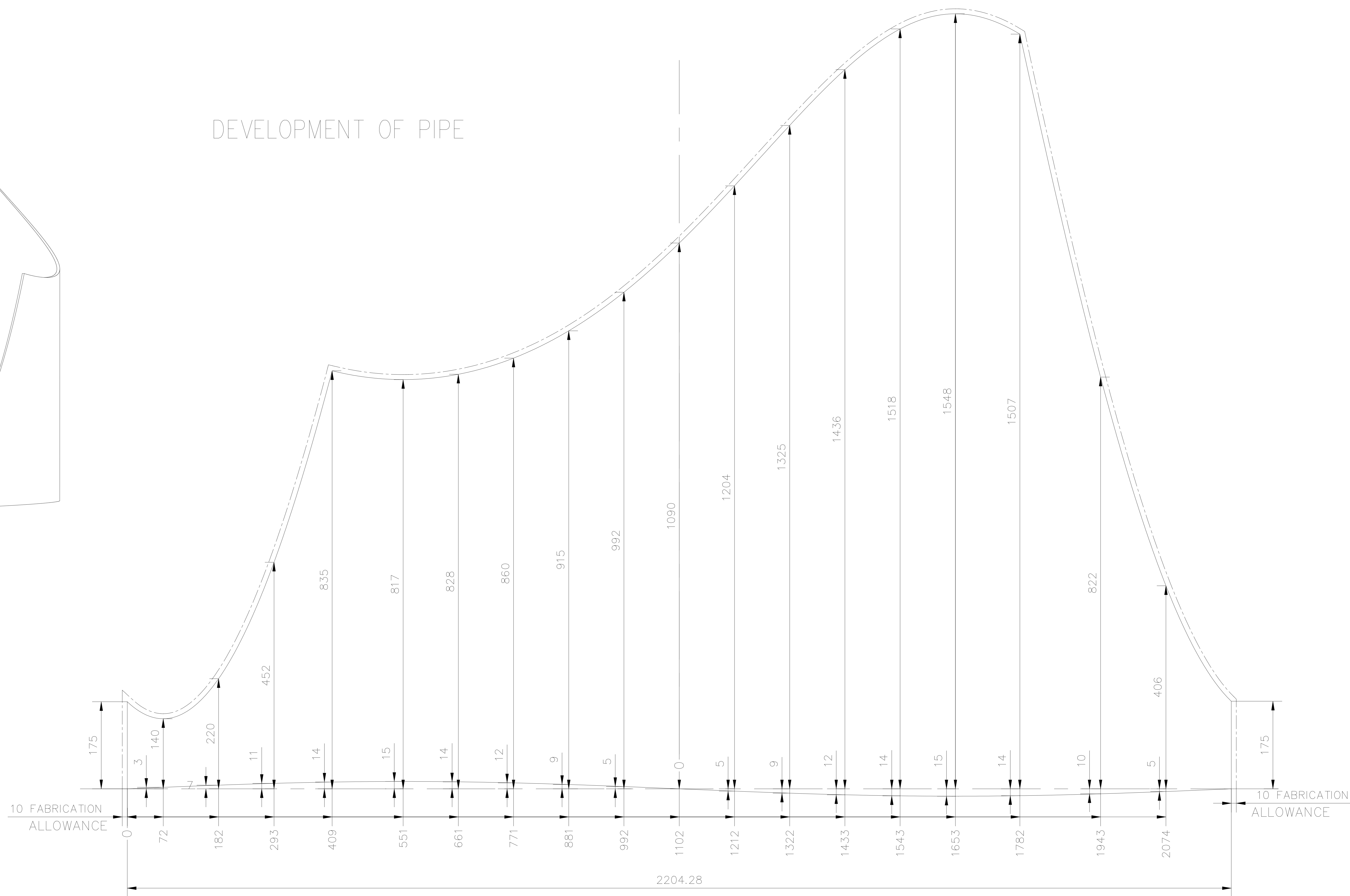
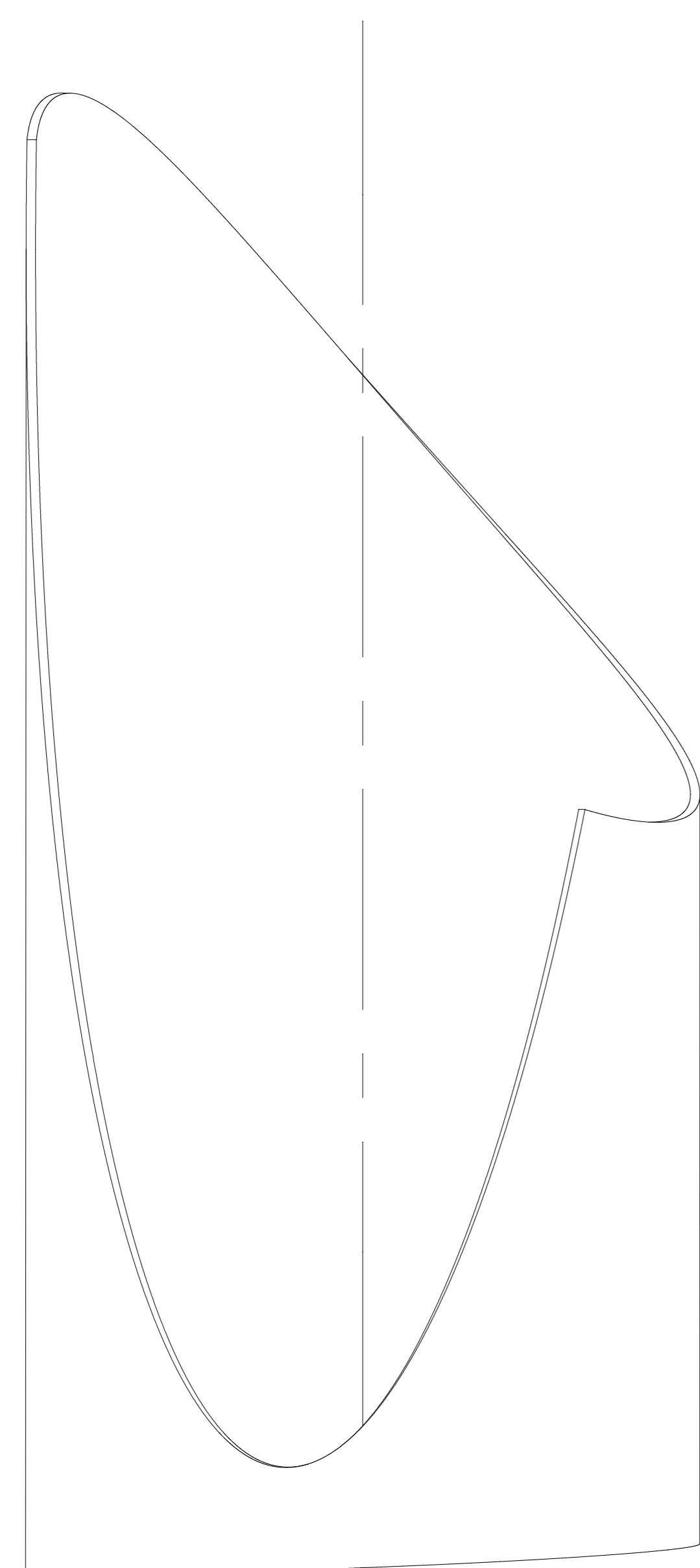
SL. NO.	CO-ORDINATES	
	X	Y
0	0	0
1	0	1502
2	151	1494
3	299	1471
4	449	1433
5	599	1377
6	749	1302
7	898	1203
8	1048	1075
9	1198	906
10	1347	663
11	1497	122
12	1538	126
13	1518	348
14	1866	381
15	1885	159
16	2081	178
17	1873	924
18	1665	1261
19	1457	1497
20	1249	1674
21	1040	1811
22	832	1915
23	624	1993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

Inventory No. PSK046L652
Sign & Date
Ref. Drawing No. DSPPG-0127020
TIN NO. PSK046L652

GRADE OF UNTOL. DIM		AGREED DEPT		NAME		SIGN		DATE	
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.					

GMS No./ CBOM No. 9-10742-58000		STATUS OF DRG		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				STEAM TURBINE			
BHARAT HEAVY ELECTRICALS LTD.		RANIPUR, HARDWAR		DRN	NAME	SIGN	DATE	NO. OF VAR			
AFZAL KHAN		SD/-		02.03.2013		73 74					
DINESH		SD/-		04.03.2013		75 77					
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		75 77			
TITLE : HALF CONE				CARD CODE	DRAWING NO.		ITEM No.		NO. OF SHEETS		
				7	2-10742-58104		22 23 24		02		
				SHEET No. 02		No. OF SHEETS 02					

DEVELOPMENT OF PIPE



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Inventory No.	1	2	3	4	5	6
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			
AGREED DEPT	NAME	SIGN	DATE
WT	H.VERMA	-SD/-	28.07.12

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT
STEAM TURBINE

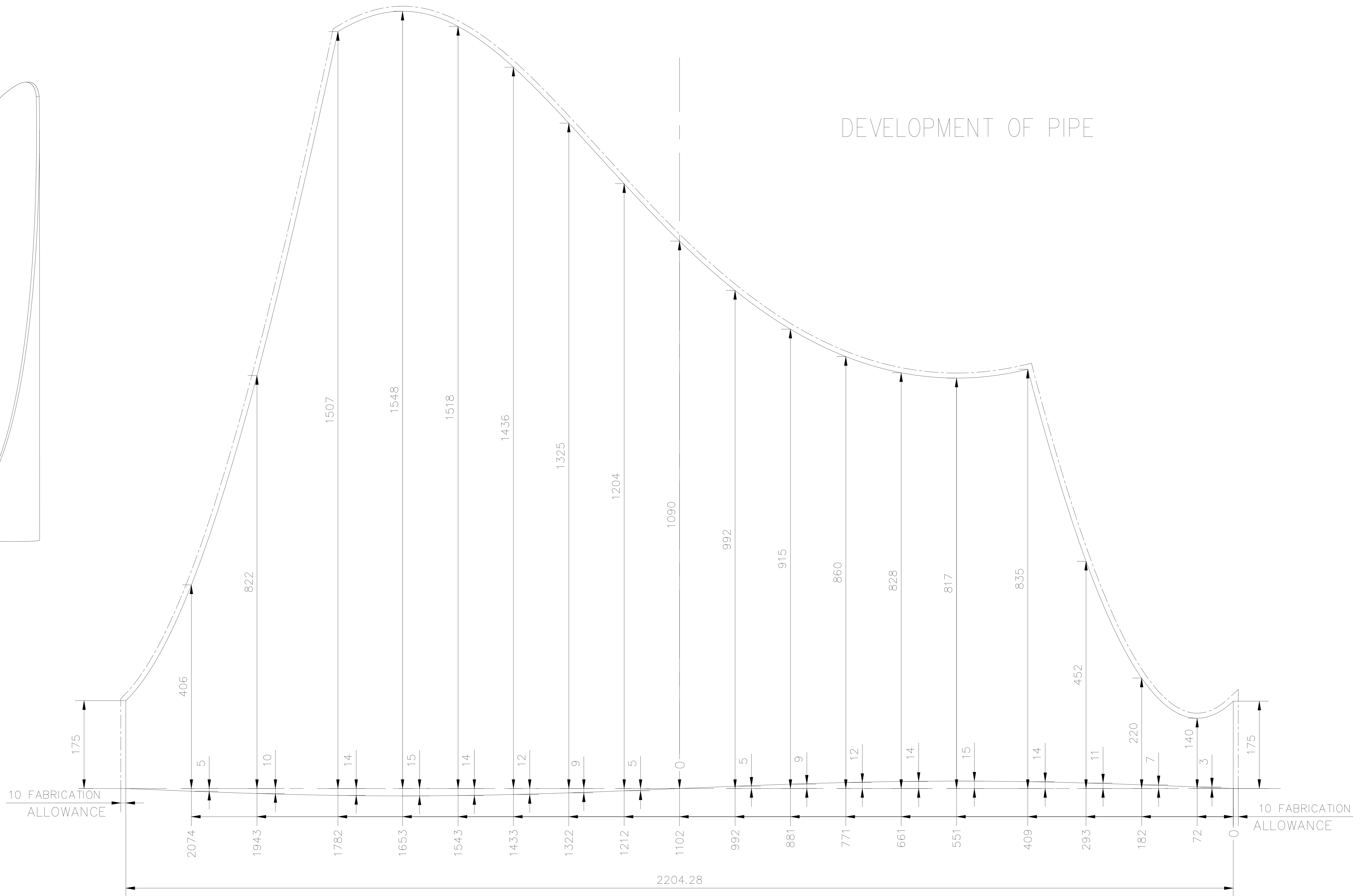
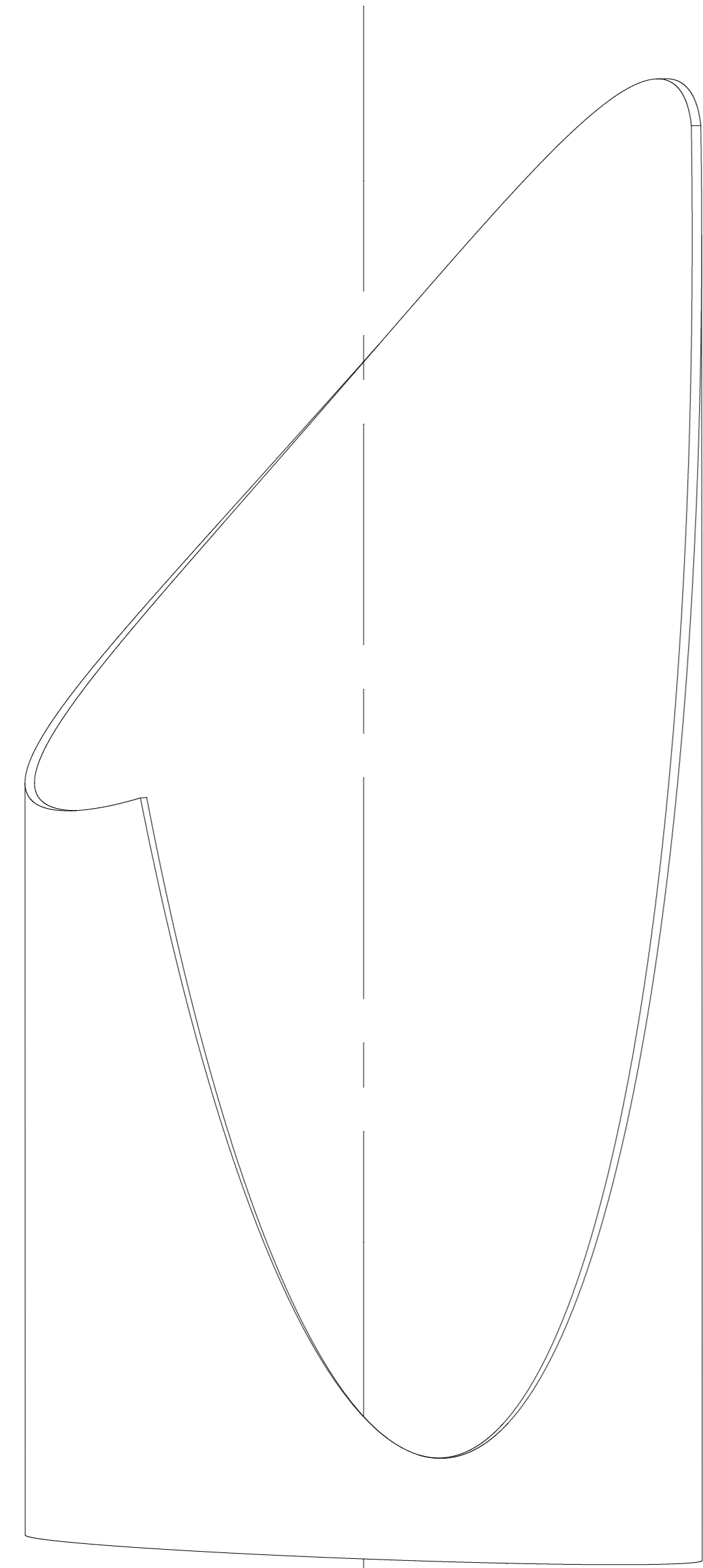
	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		
	NAME	SIGN	DATE
	DRN AFZAL KHAN	-SD/-	18.07.2012
CHD DINESH	-SD/-	19.07.2012	
APPD D.K.RAY	-SD/-	28.07.2012	

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 1:6	WEIGHT (KG) 156	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 216	NO. OF ITEMS 75-77
CODE 4011	TITLE : PIPE	CARD CODE 7	DRAWING NO. 2-10742-58216		
DATE UPDATED. THIS DRG. SUPERSEDED THE OLD DRG. UNDER THE SAME NO. AS PER C/A NO. STE-13-F0201.		SHEET No. 02 No. OF SHEETS 02			

2-10742-58217

DRAWING NO.



DEVELOPMENT OF PIPE

10 FABRICATION ALLOWANCE

10 FABRICATION ALLOWANCE

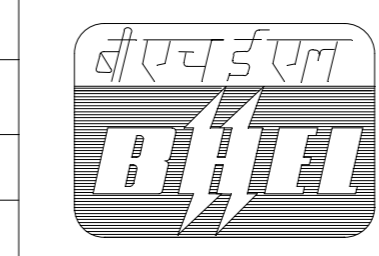
GMS No./ CBOM No. 9-10742-58000

STATUS OF DRG U

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT STEAM TURBINE

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

AGREED DEPT	NAME	SIGN	DATE
WT	H.VERMA	-SD/-	28.07.12



BHARAT HEAVY ELECTRICALS LTD.
 RANIPUR, HARDWAR

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

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

REV 01 DATE 18.05.13 ALTERED CHECKED MONIKA DINESH

DEPT STE



SCALE 1:6

WEIGHT (KG) 156

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

CODE 4011

TITLE : PIPE

ITEM No. 217

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

CARD CODE 7
 DRAWING NO. 2-10742-58217

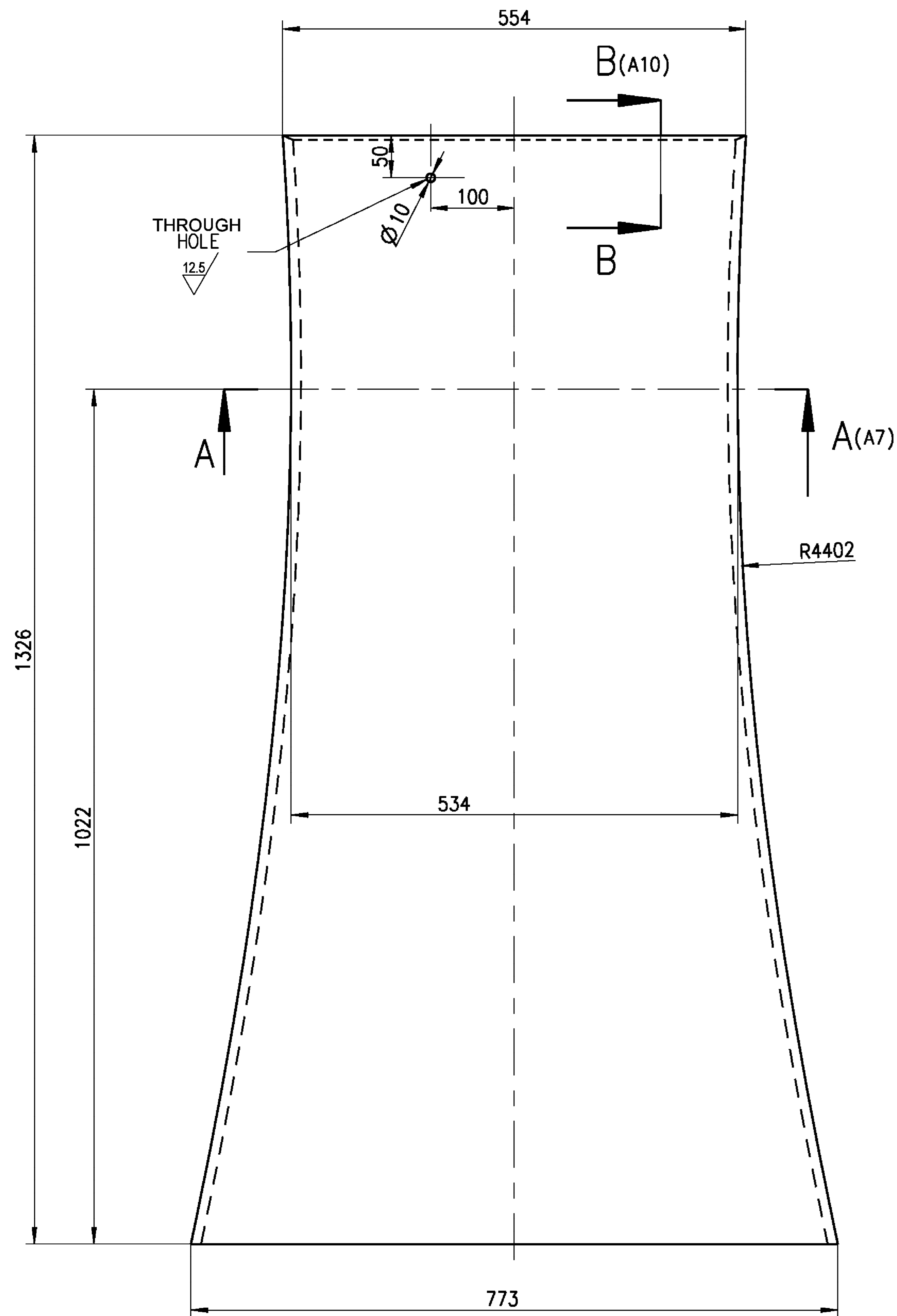
SHEET No. 02 No. OF SHEETS 02

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DRAWING No. 2-10742-32242

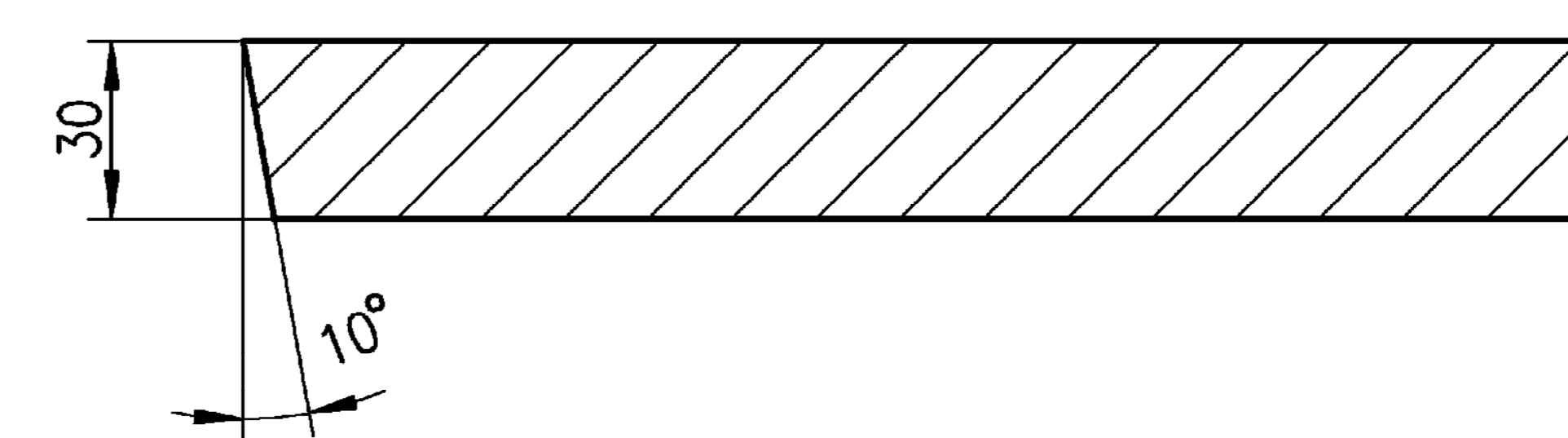
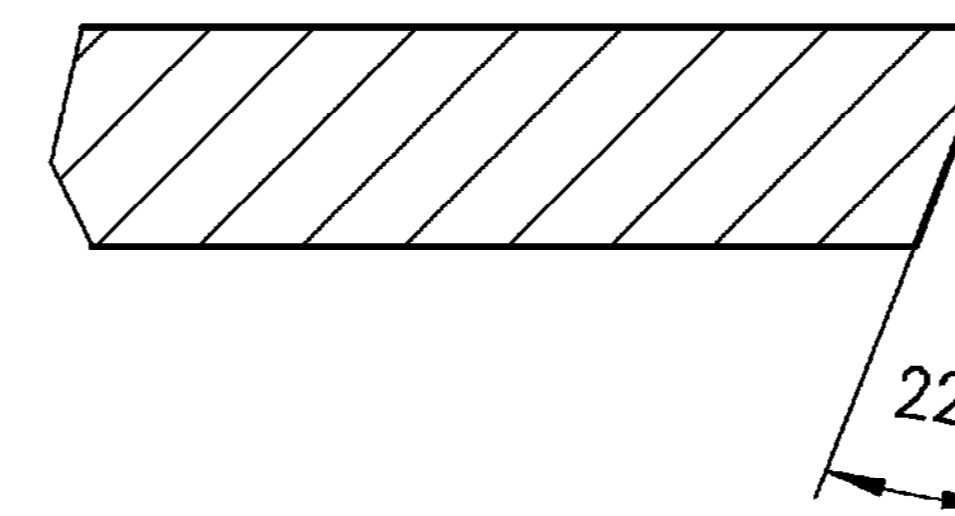
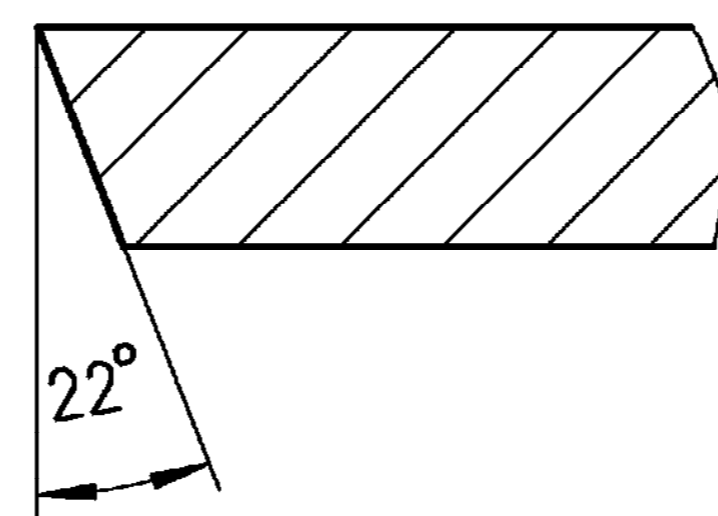
50/ ALL OVER EXCEPT OTHERWISE STATED

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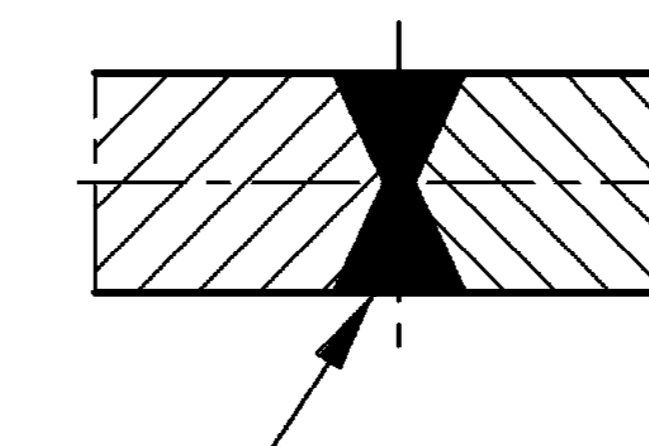


A-A
1:2

B-B
1:2



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

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

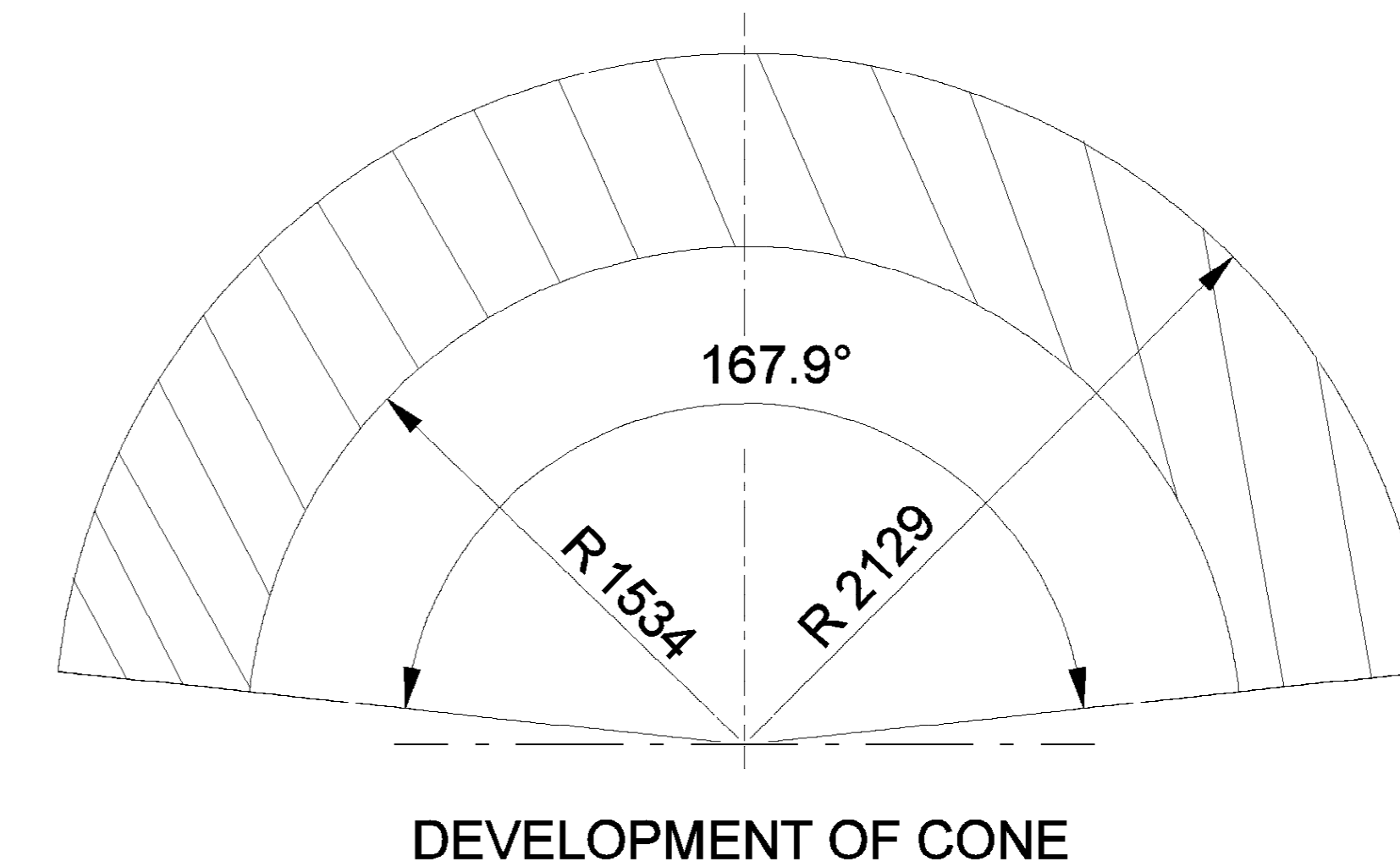
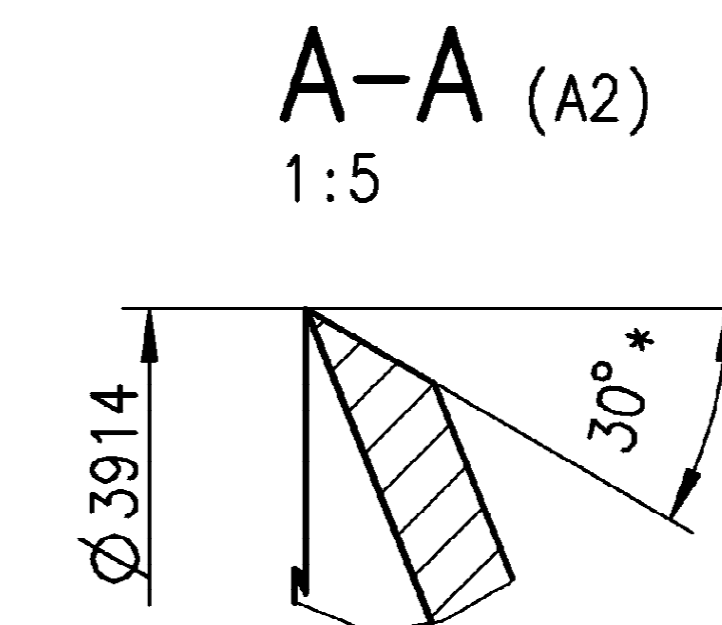
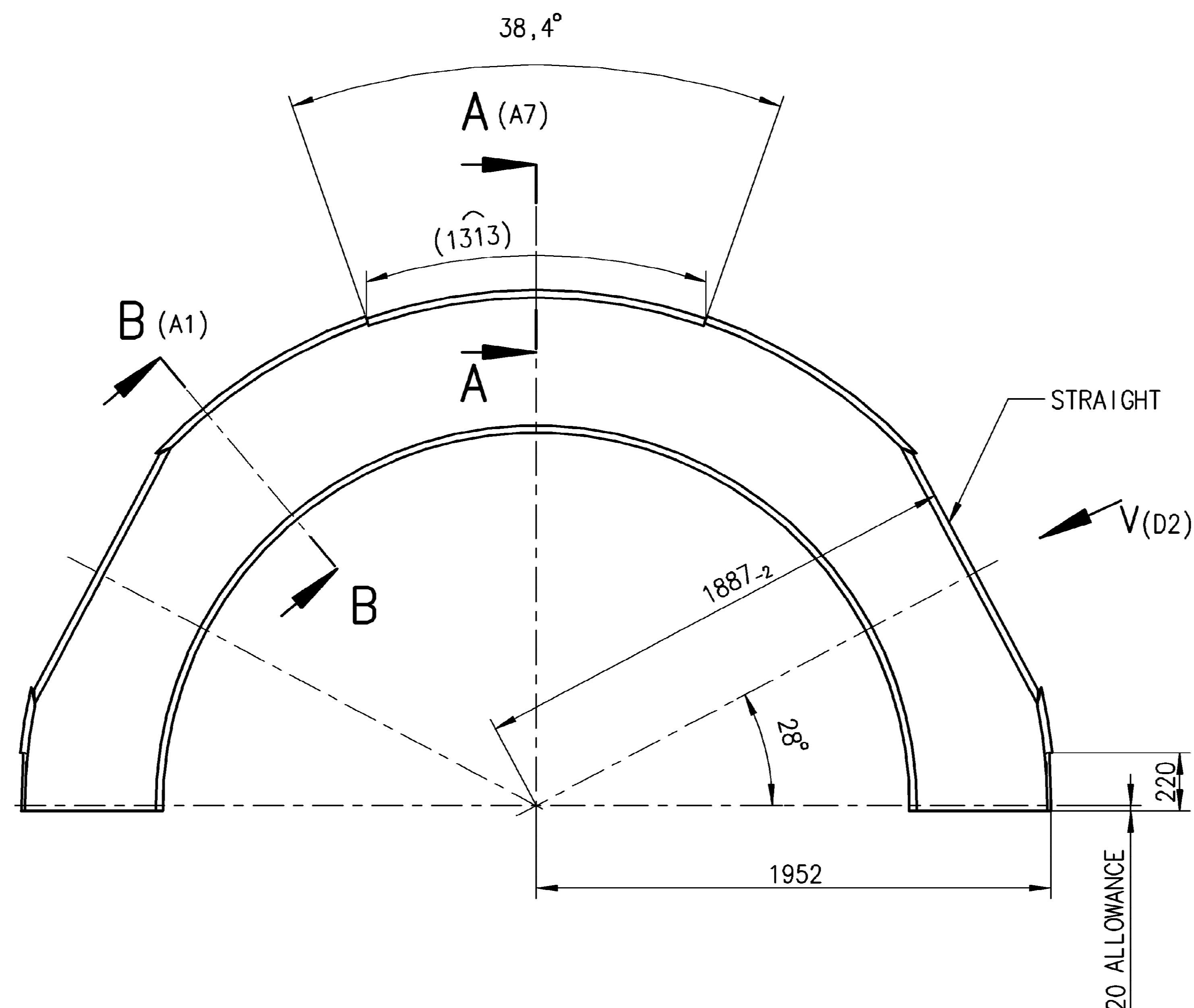
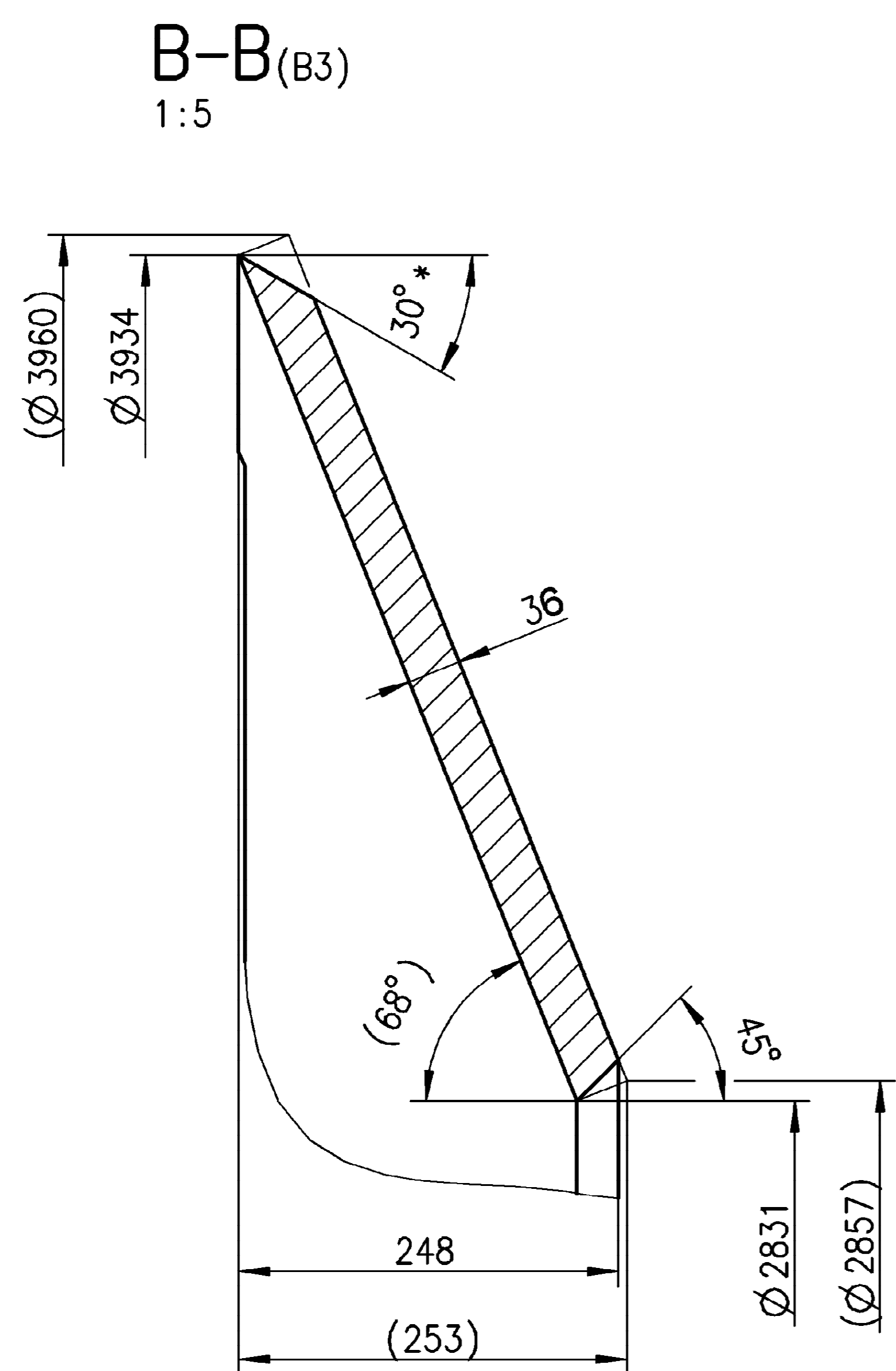
REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
1			2			3			4			5		

GRADE OF UNTOL.DIM		AGREED DEPT		NAME	SIGN	DATE	GMS No./ CBOM No.		STATUS OF DRG	
M/CG.-C/M/F AA0230208		WT		S. Thakur	-SD/-	05.01.17				
WELDING-A/B/C/D // AA0621104										
GAS CUTTING-T3/AA0621101										

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE			
BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE
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.
4011		1:5	183	9-10742-32000	242
TITLE : PLATE		CARD CODE	DRAWING NO. 2-10742-32242		22 23 24
		SHEET No. 1		No. OF SHEETS 1	

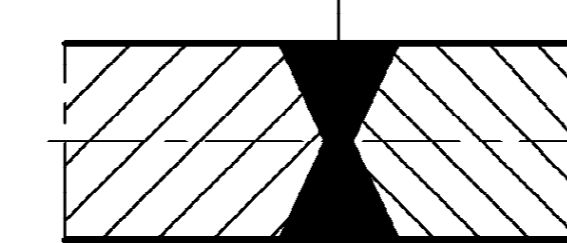
DRAWING No. 2-10742-58103

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.

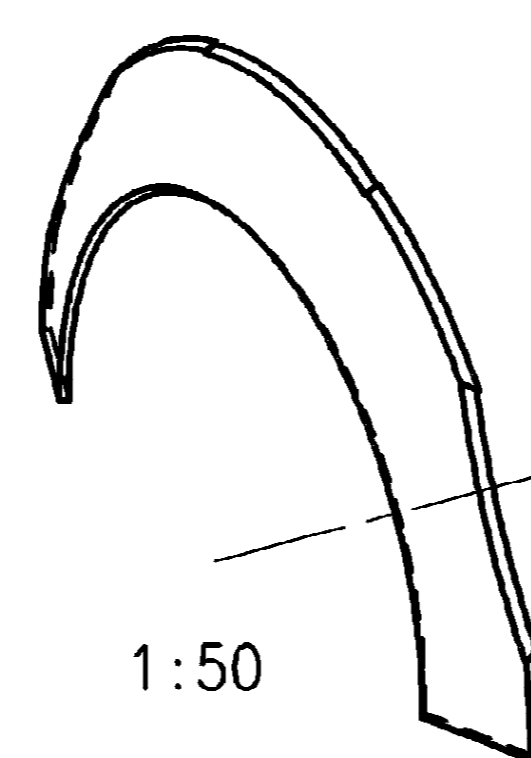
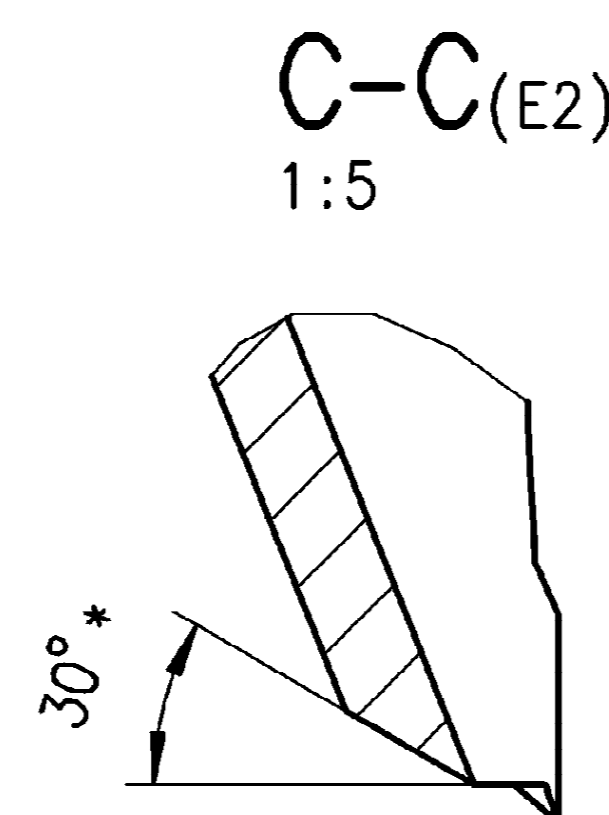
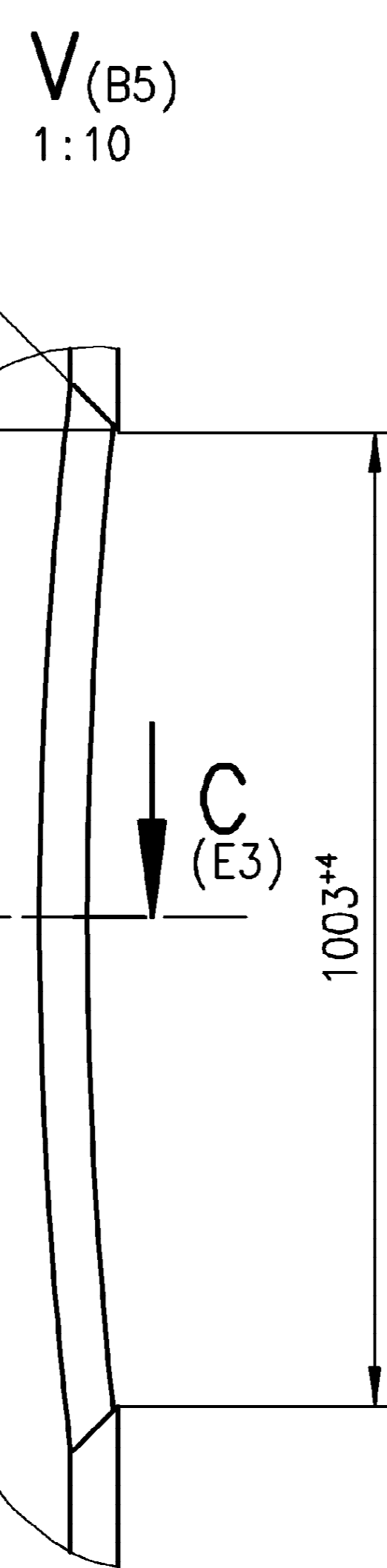
DEFINITION : FULL PENETRATION WELD



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.



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TIN NO. PSK0461651

Ref. Drawing No. DSPPG-0127019

Sign & Date

Inventory No.

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

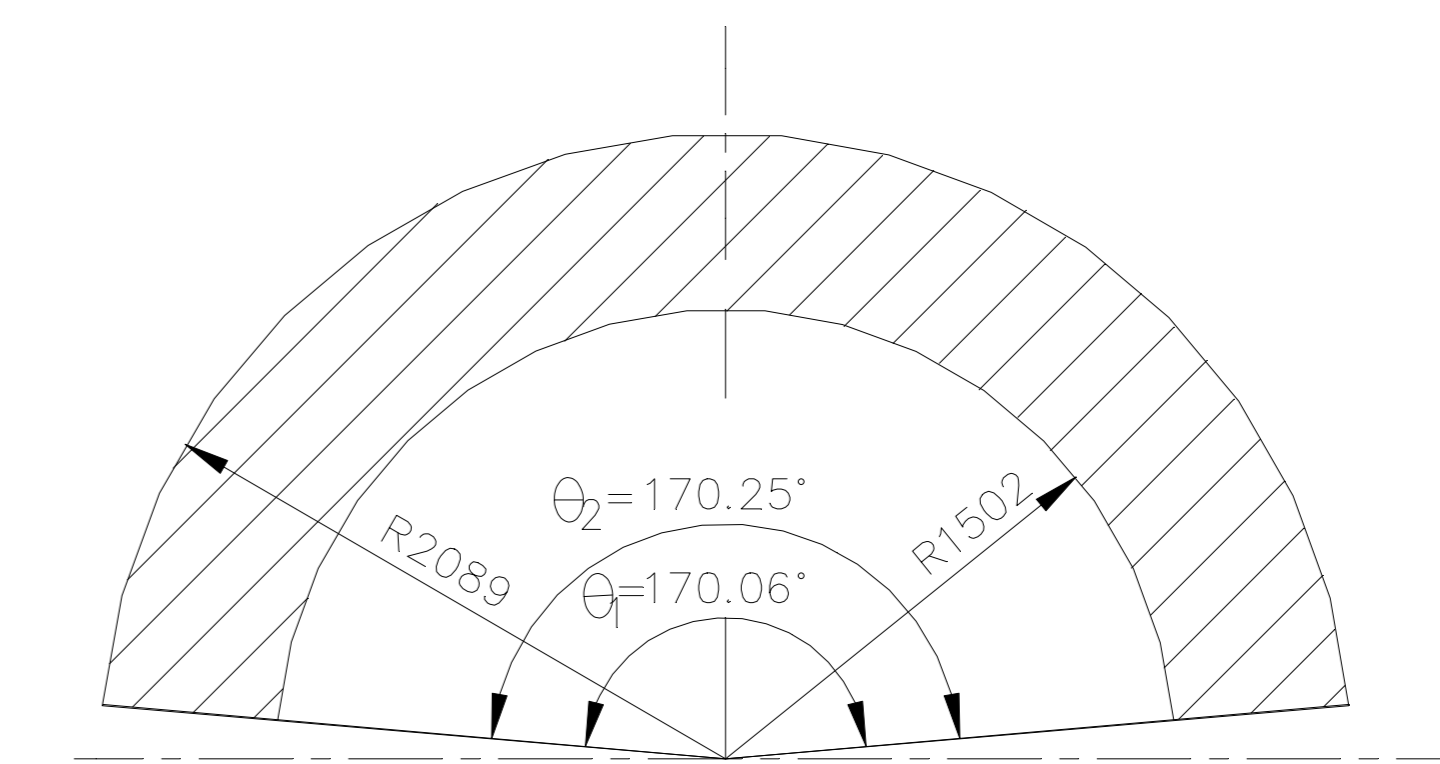
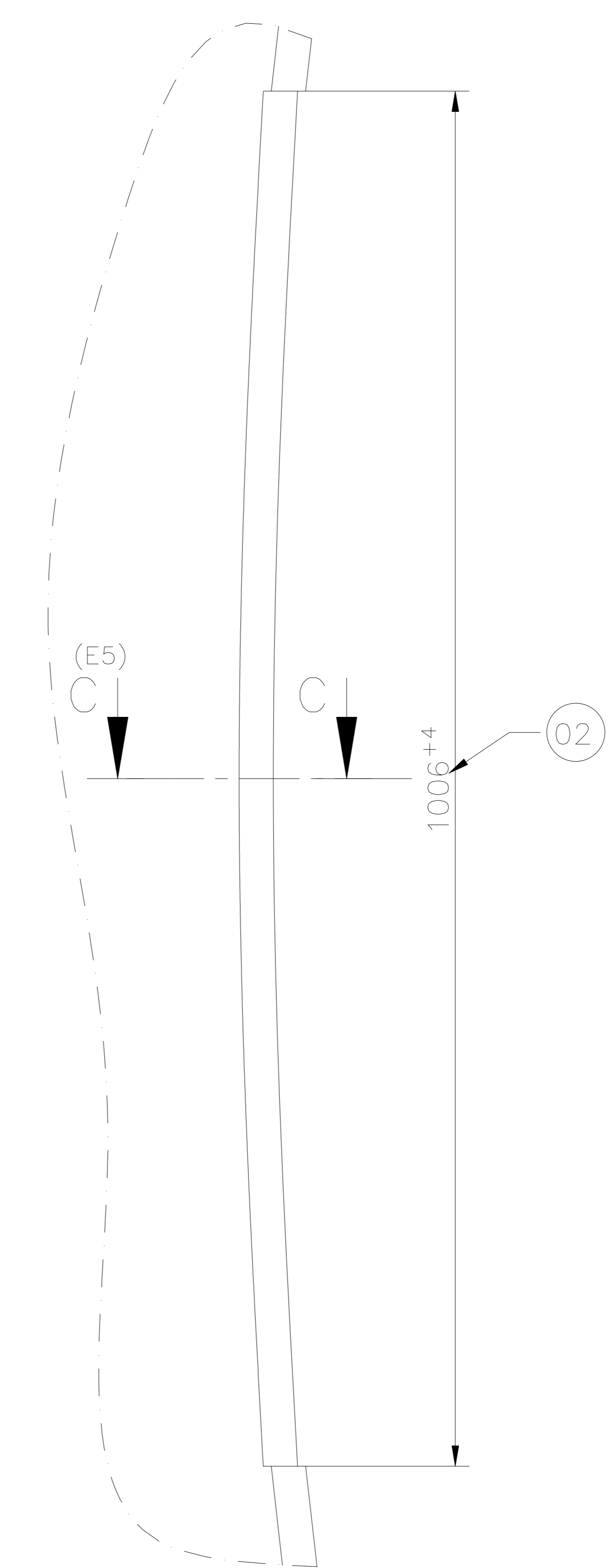
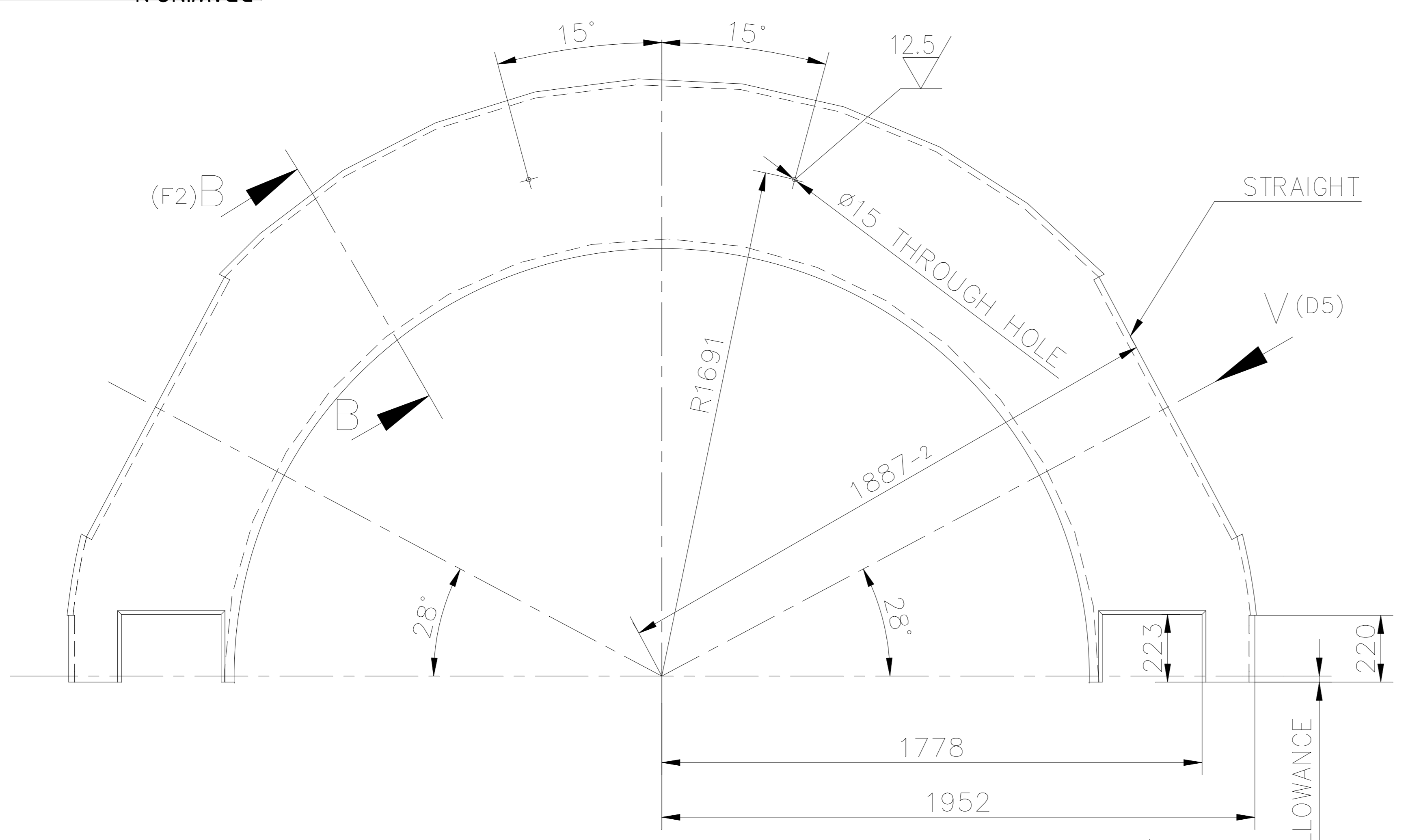
GRADE OF UNTOL. DIM	
M/CG -C/M/F	AA0230208
WELDING-A/B/C/D	AA0621104
GAS CUTTING-T3/AA0621101	

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

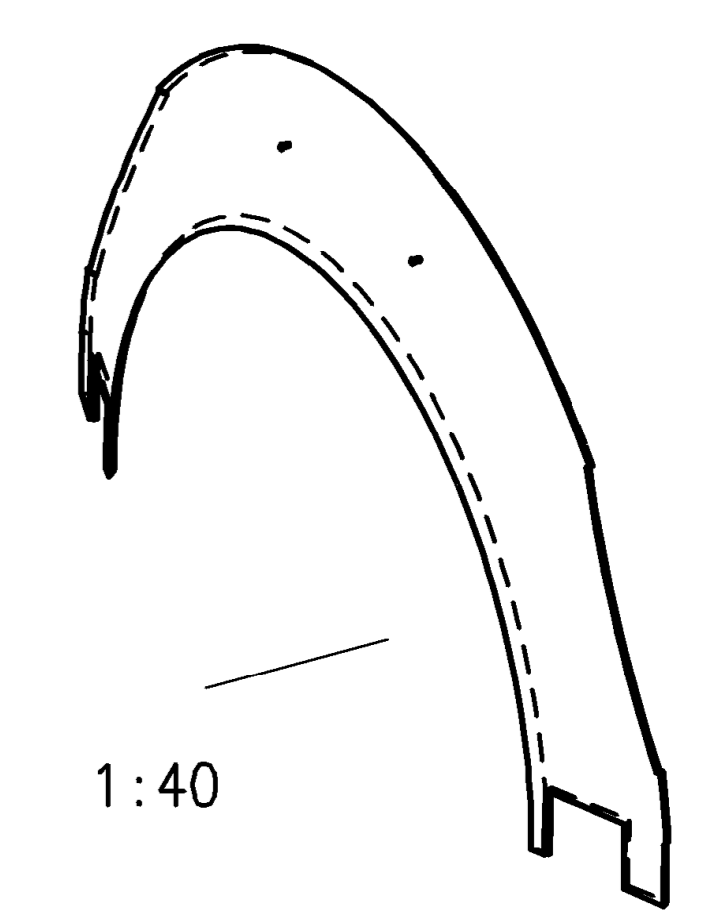
STATUS OF DRG		TYPE OF PRODUCT		STEAM TURBINE							
OR		NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD.		DRN	POONAM	SIGN	SD/-	DATE	29.11.2011	NO. OF VAR			
RANIPUR, HARDWAR		CHD	DINESH	SD/-		01.12.2011					
		APPD	D.K.RAY	SD/-				73 74			
DEPT	STE	SCALE	1:20	WEIGHT (KG)	790	REF. TO ASSY. DRG.	9-10742-58000	ITEM NO.	103	NO. OF ITEMS	75 77
CODE	4011	TITLE:		HALF CONE		CARD CODE	7	DRAWING NO.	2-10742-58103		
DATE & NO. OF SHEET UPDATED. INSERT NEW SHEET. AS PER CIA NO. STE-13-F0 205 .								22 23 24			
								SHEET No 1		No. OF SHEETS 2	

DRAWING No. 2-10742-58104

50/ ALL OVER EXCEPT OTHERWISE STATED

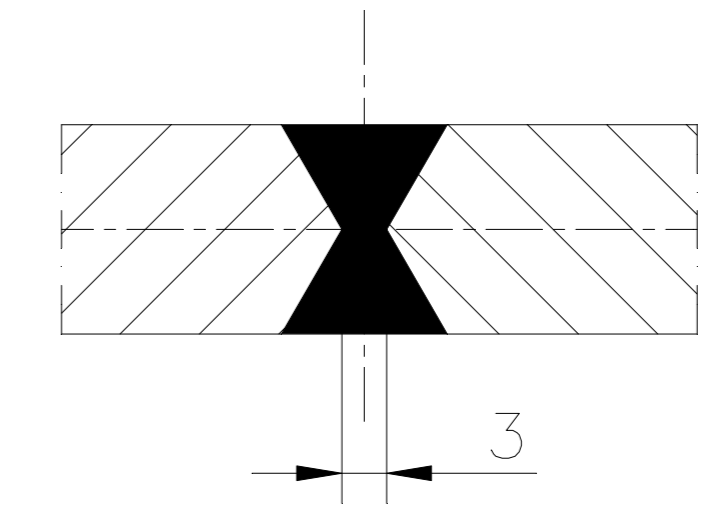


DEVELOPMENT OF CONE SCALE 1:50

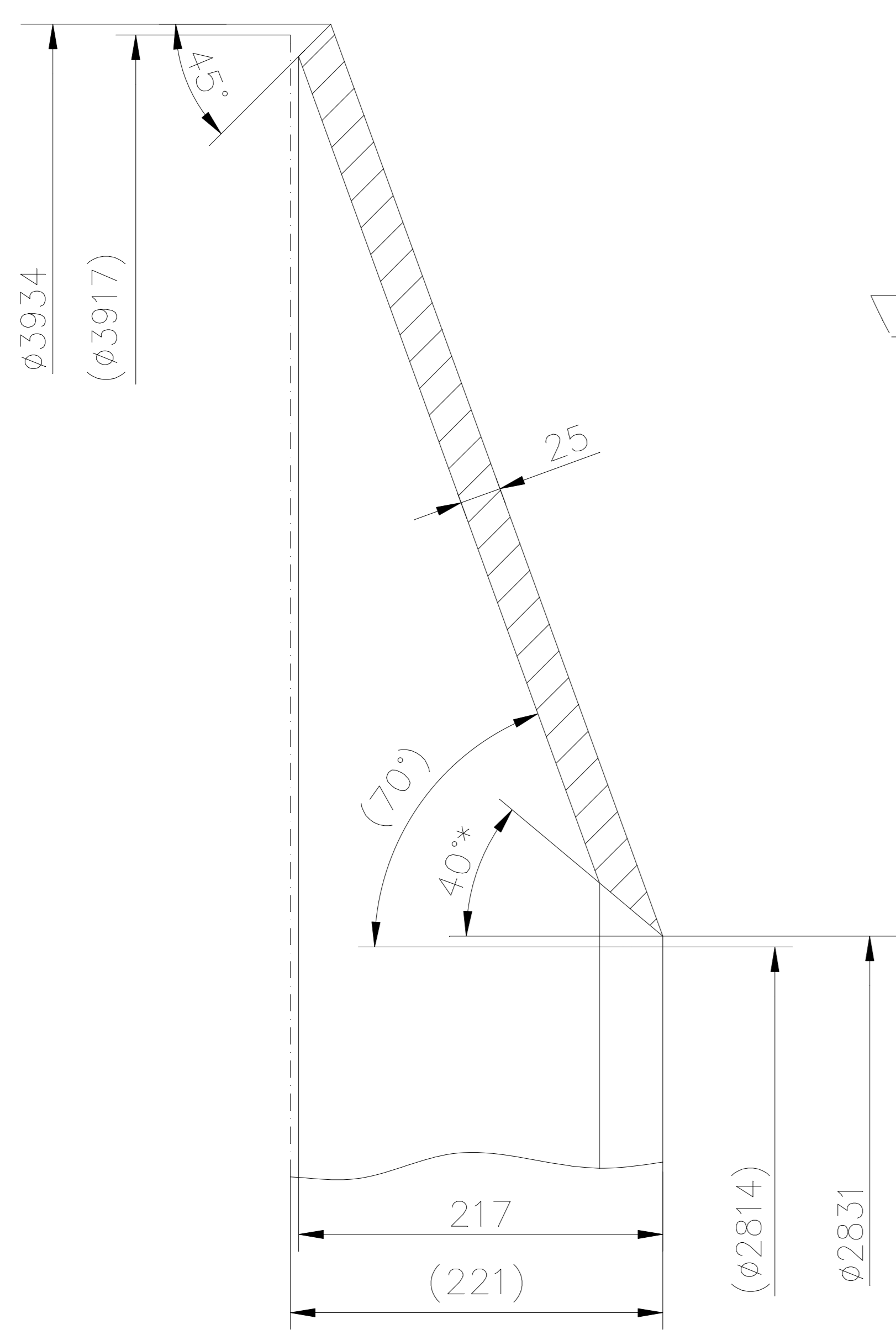


1:40

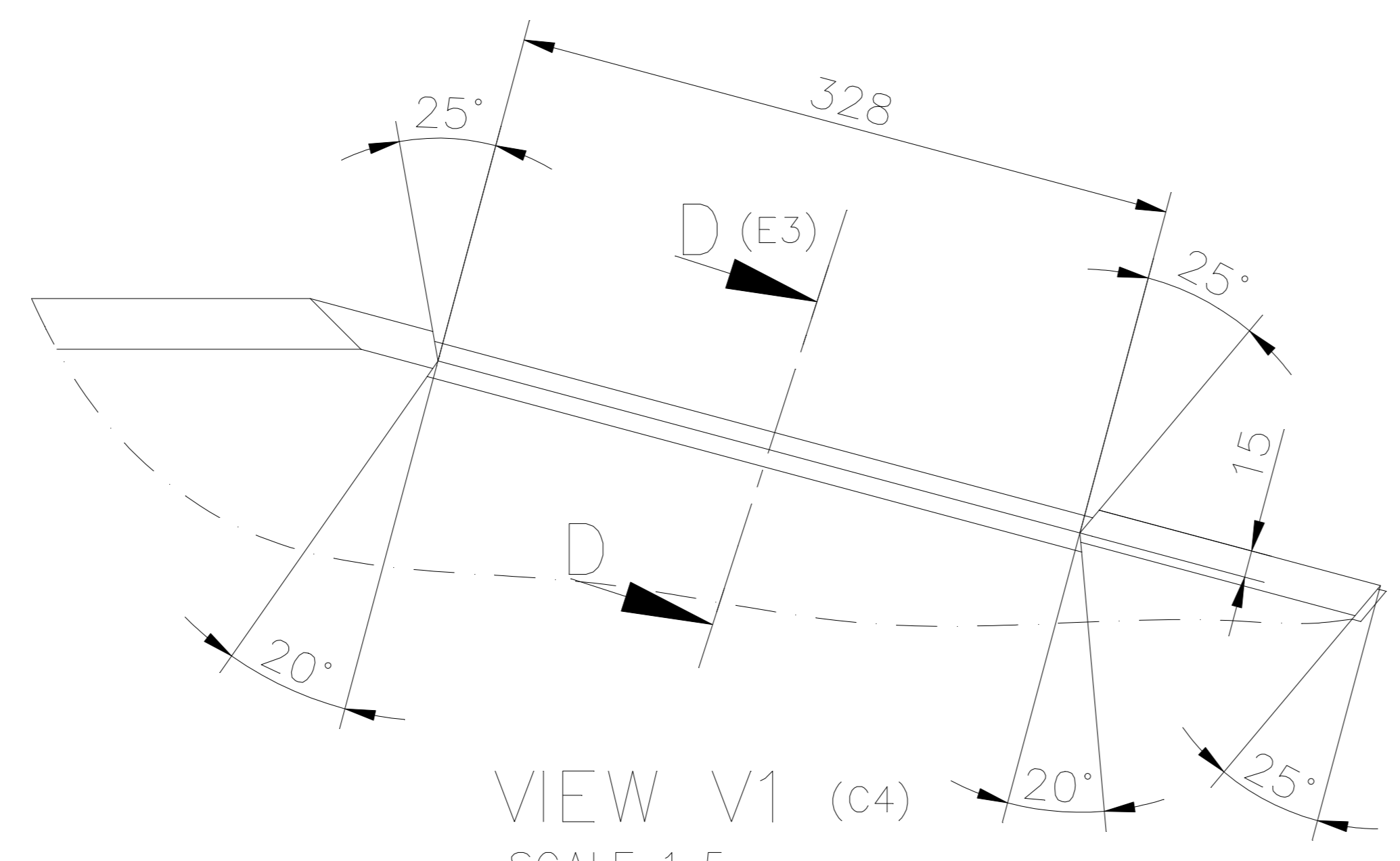
DIVIDED IN PARTS IF REQUIRED, ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELDS, PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.



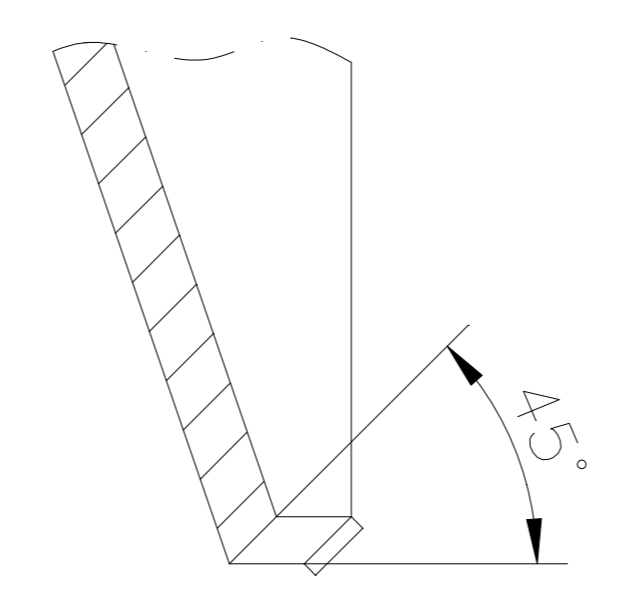
DETAIL: FULL PENETRATION WELD WELD EDGE PREPARATION ACC. TO ISO 9692-1/ISO 9692-2



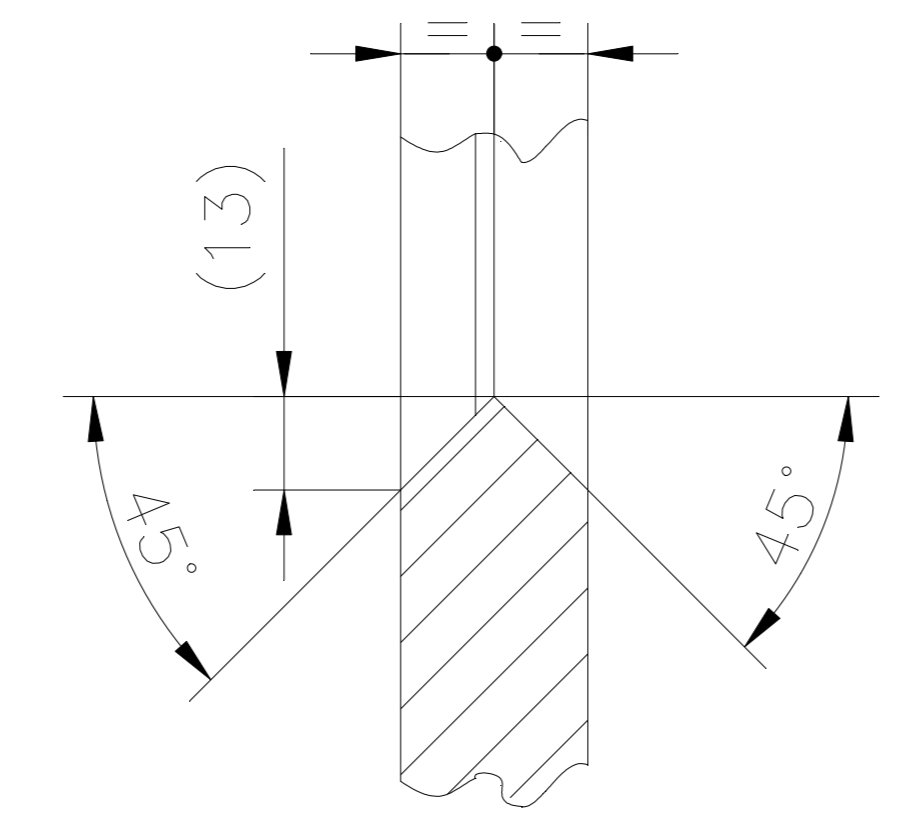
SECTION BB (A1) SCALE 1:5



VIEW V1 (C4) SCALE 1:5



SECTION CC (B5) SCALE 1:5



SECTION DD (C3) SCALE 1:2

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

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TIN NO. PSK046L652

Ref. Drawing No. DSPPG-0127020

Sign & Date

Inventory No. PSK046L652

GRADE OF UNTOL. DIM				-GMS No./ CBOM No. 9-10742-58000		STATUS OF DRG	
M/CG.-C/M/F AA0230208				AGREED DEPT	NAME	SIGN	DATE
WELDING-A/B/C/D // AA0621104				WT	H. VERMA	SD/-	28.07.12
GAS CUTTING-T3'AA0621101							
REV	DATE	ALTERED	ANOOP	REV	DATE	ALTERED	MONIKA
02	27.01.15	CHECKED	DINESH	01	25.05.13	CHECKED	DINESH
IN SHEET NO.1 VIEW V DIM. 10060+4TO CORRECTED DIM. 1006+4				DATE & NO. OF SHEET UPDATED INSERT NEW SHEET.			
AS PER C/A NO. STE-15-F0028.				AS PER C/A NO. STE-13-F0205.			

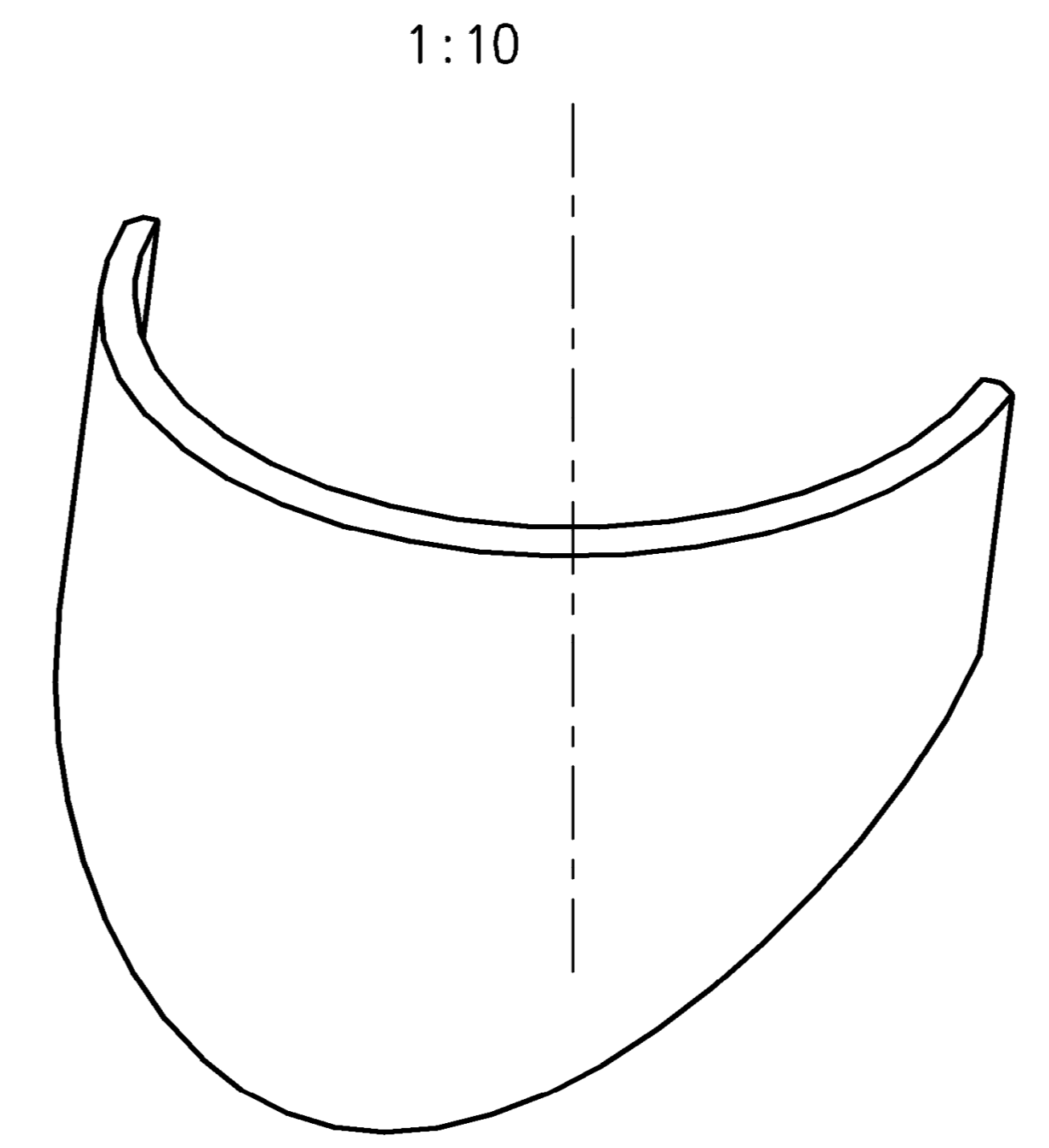
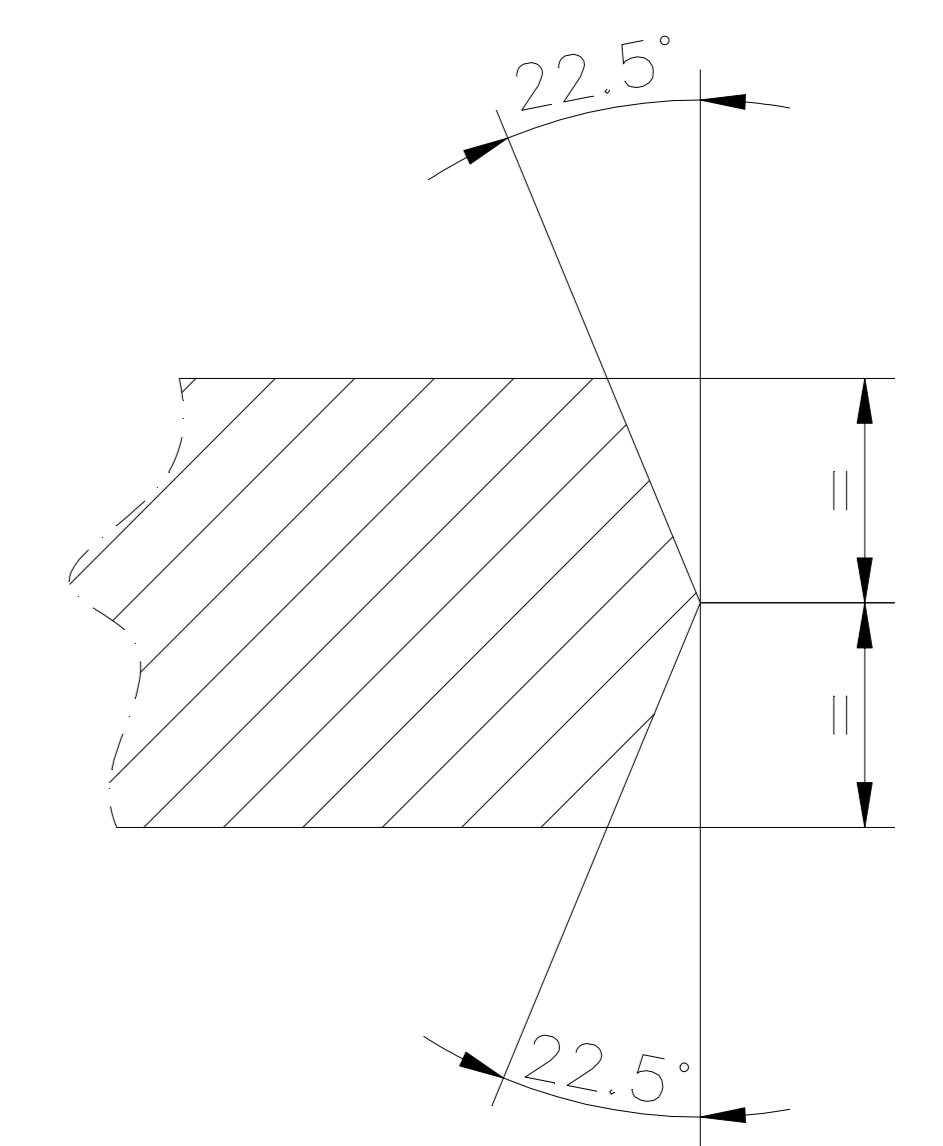
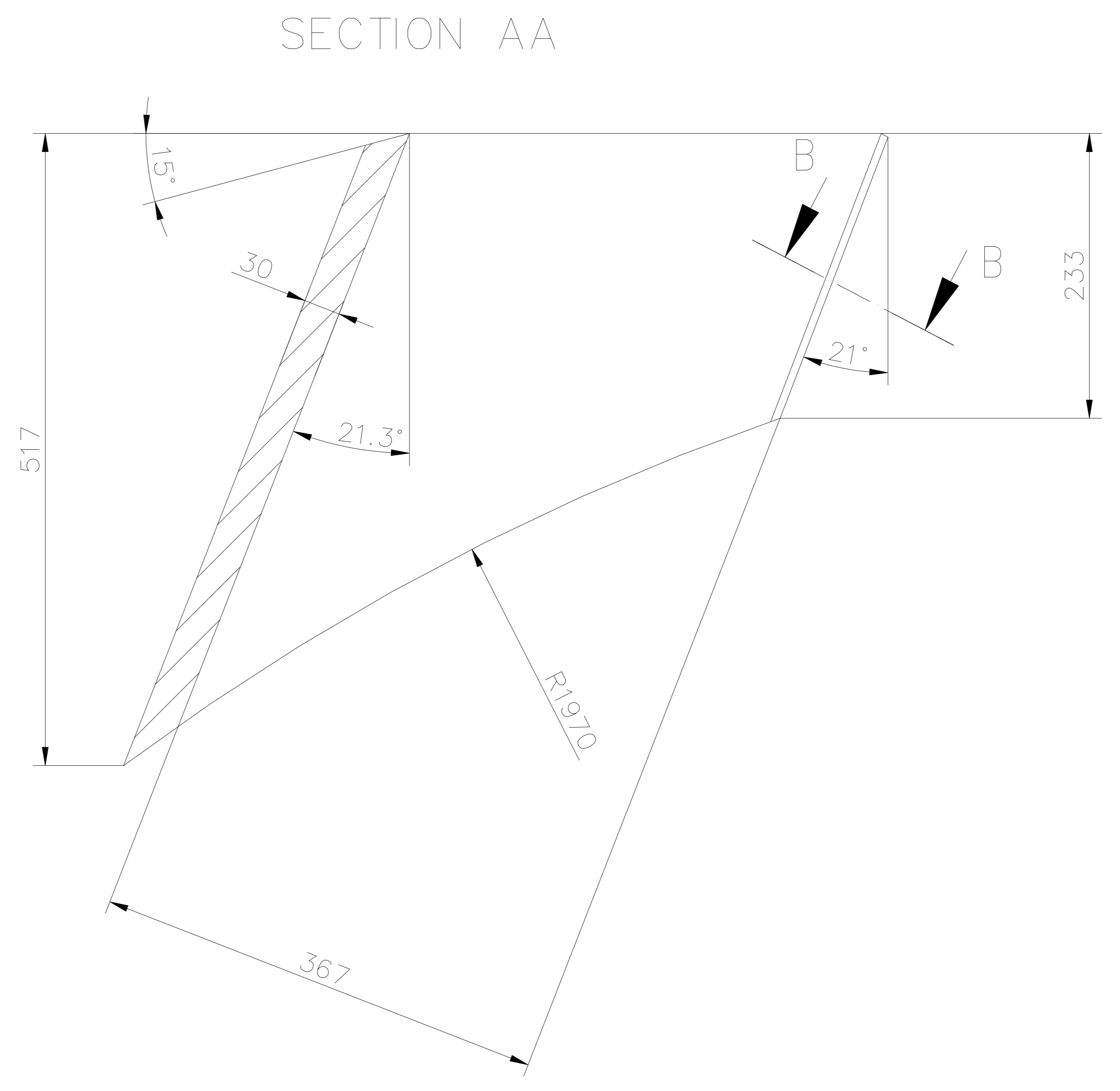
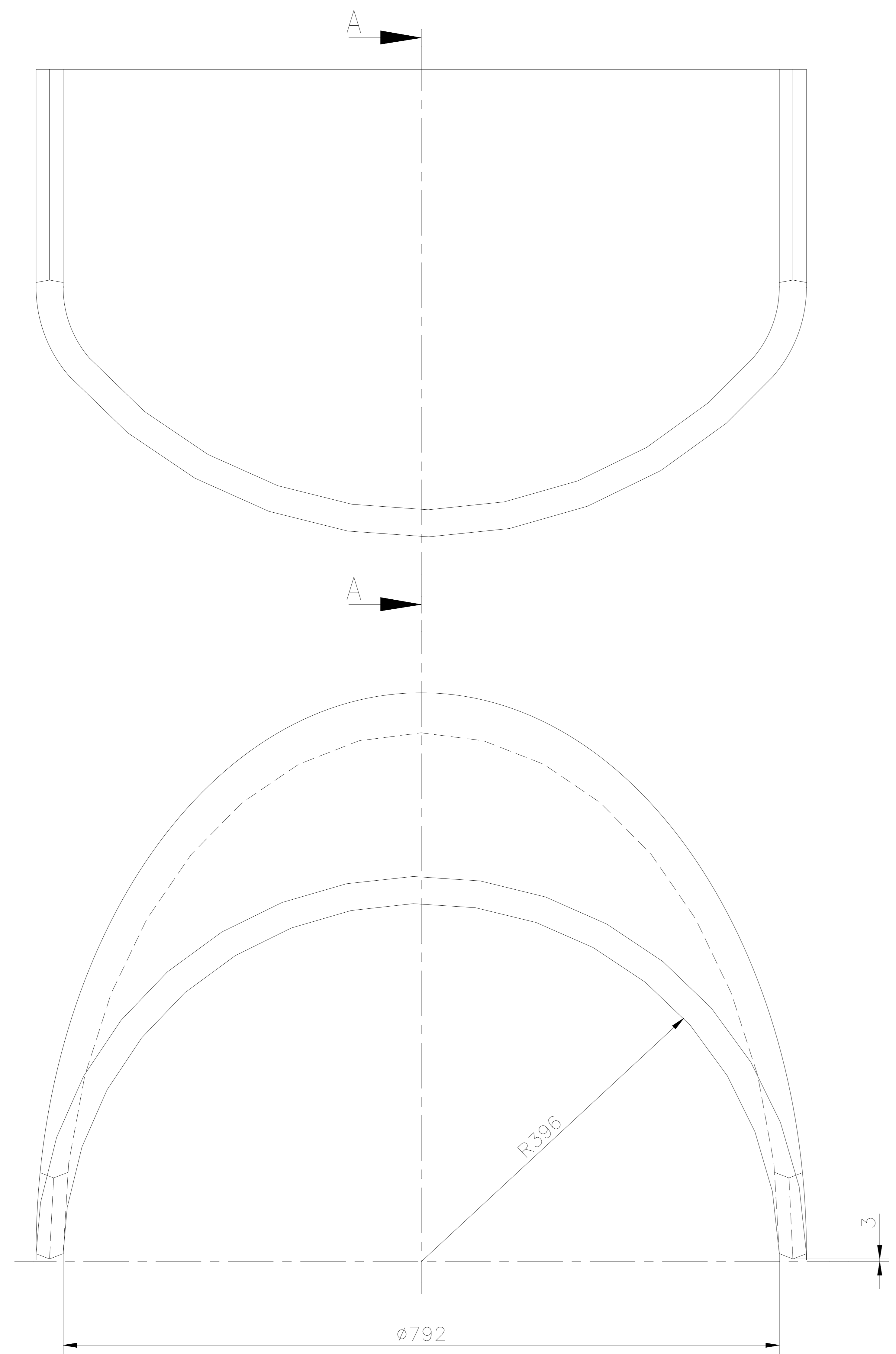
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				STEAM TURBINE			
BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				DRN	NAME	SIGN	DATE
				CHD	POONAM	SD/-	28.11.2011
				APPD	DINESH	SD/-	01.12.2011
				APPD	D.K.RAY	SD/-	28.07.12
DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM NO.	NO. OF ITEMS
4011		1:20	532.00	9-10742-58000		104	75 77
TITLE: HALF CONE				CARD CODE	DRAWING NO. 2-10742-58104		22 23 24
				7	SHEET No. 1		No. OF SHEETS 2

DRAWING No 2-10742-58121

50/ ALL OVER EXCEPT OTHERWISE STATED

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



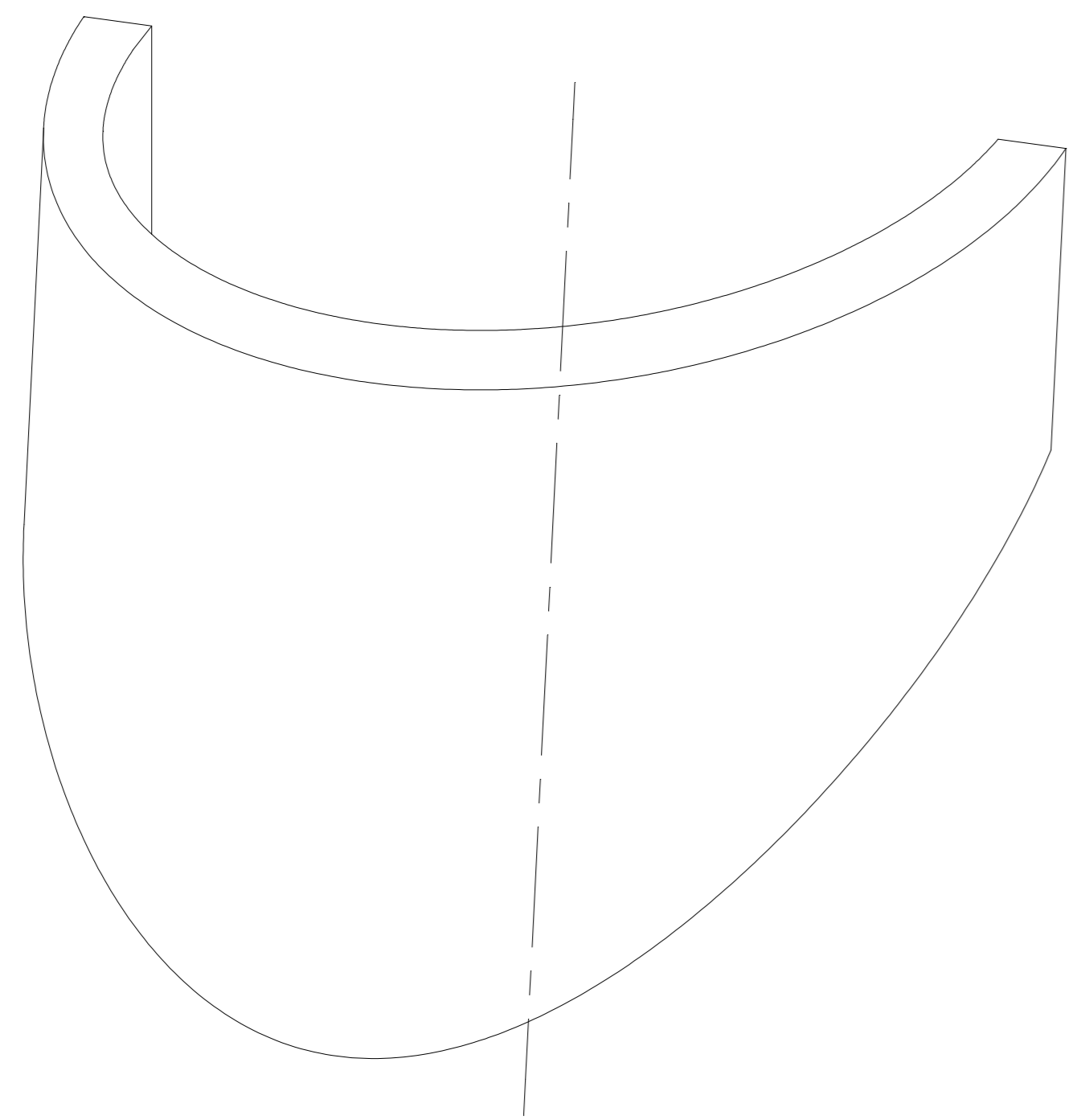
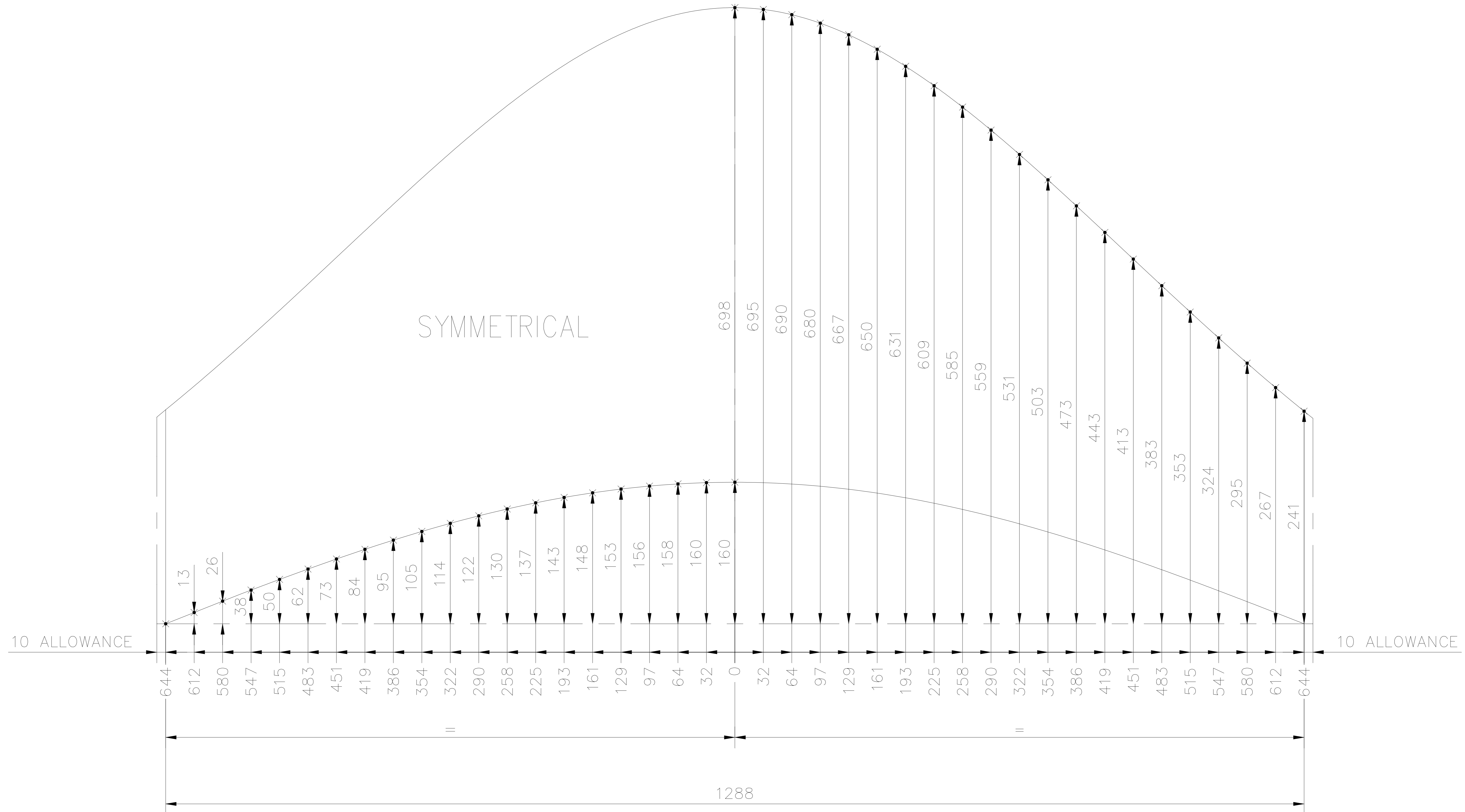
SECTION BB SCALE 1:1

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

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
1			2			3			4			5			6		

GMS No./ CBOM No. 9-10742-58000		STATUS OF DRG	
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12
GRADE OF UNTOL.DIM		WELDING-A/B/C/D	
M/CG.-C/M/F AA0230208		// AA0621104	
GAS CUTTING-T3'AA0621101			

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE			
BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE
RANIPUR, HARDWAR		CHD	POONAM	SD/-	28.11.2011
		APPD	DINESH	SD/-	01.12.2011
			D.K.RAY	SD/-	
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.	NO. OF ITEMS
				2-10742-58121	75 77
				22 23 24	
				SHEET No.01	No. OF SHEETS 02



DEVELOPMENT OF PLATE

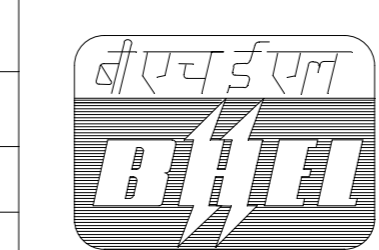
Inventory No. _____
 Sign & Date _____
 Ref. Drawing No. DSPPG-0127040
 TIN No. PSK046L659

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			
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	-SD/-	28.07.12

STATUS OF DRG	U
---------------	---

TYPE OF PRODUCT		STEAM TURBINE	
OR			
NAME OF CUSTOMER/PROJECT			



BHARAT HEAVY ELECTRICALS LTD.
 RANIPUR, HARDWAR

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

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

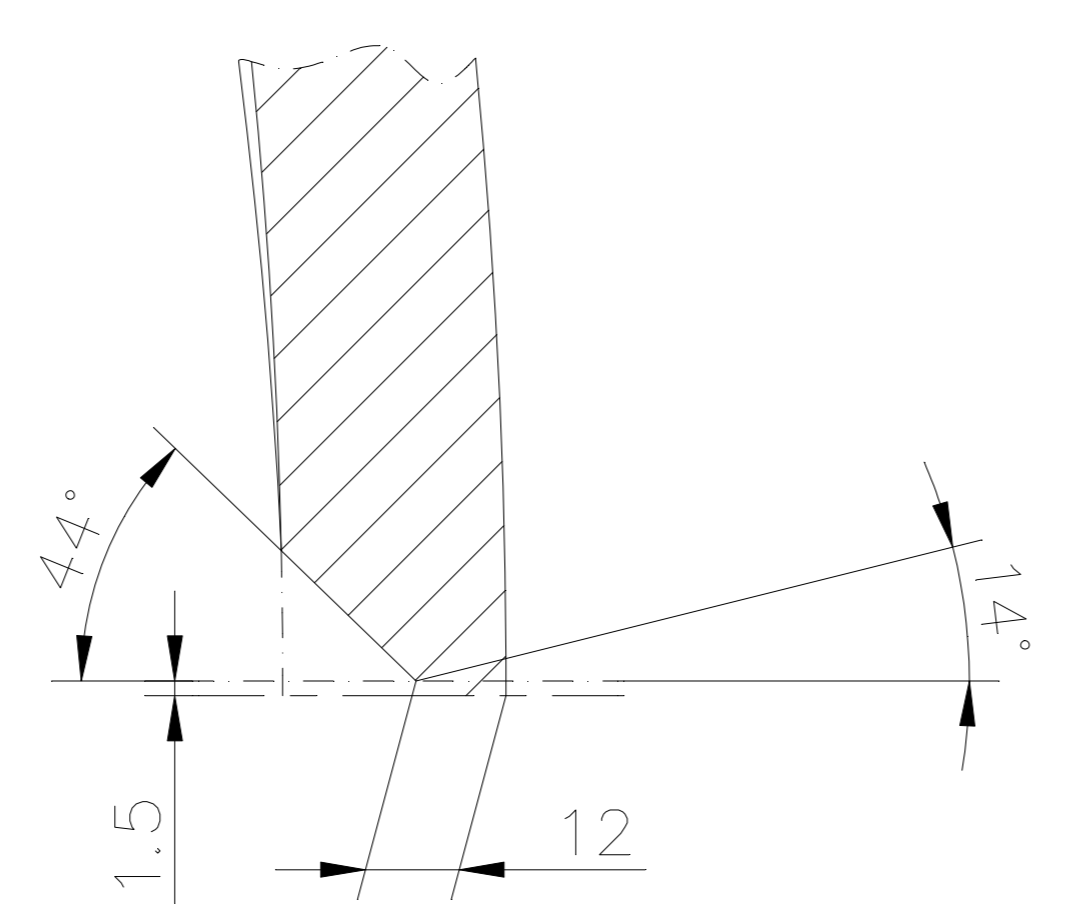
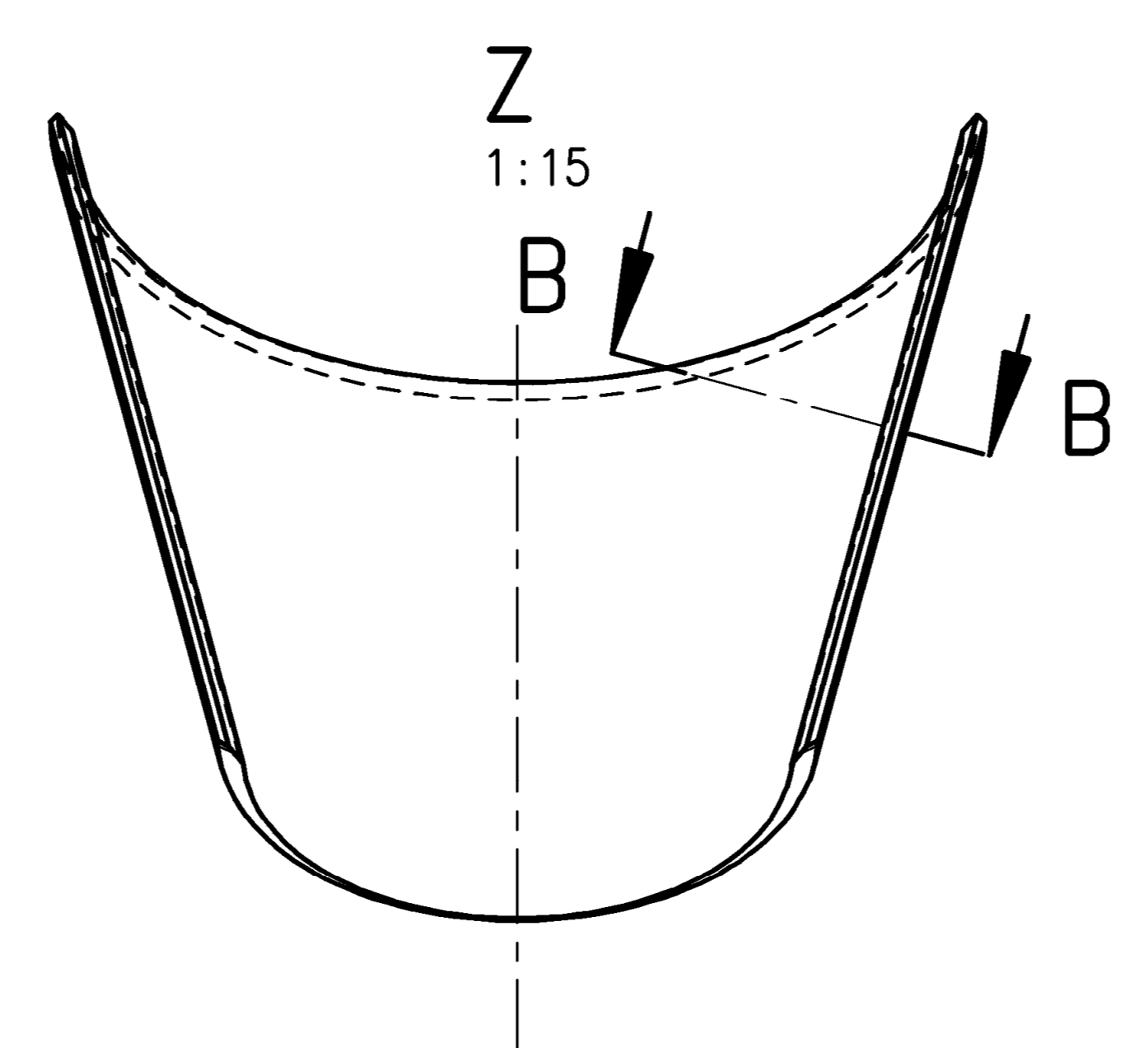
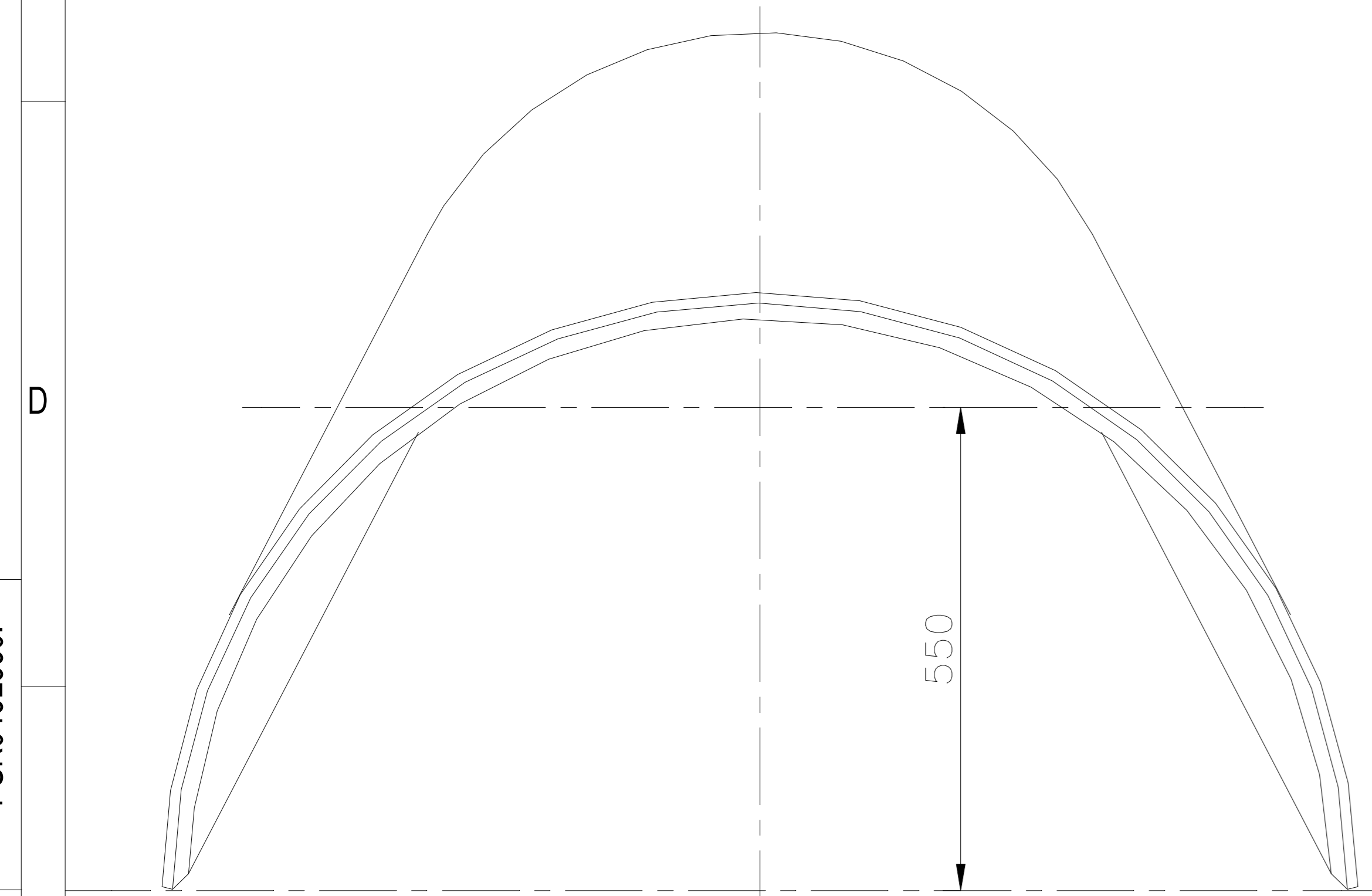
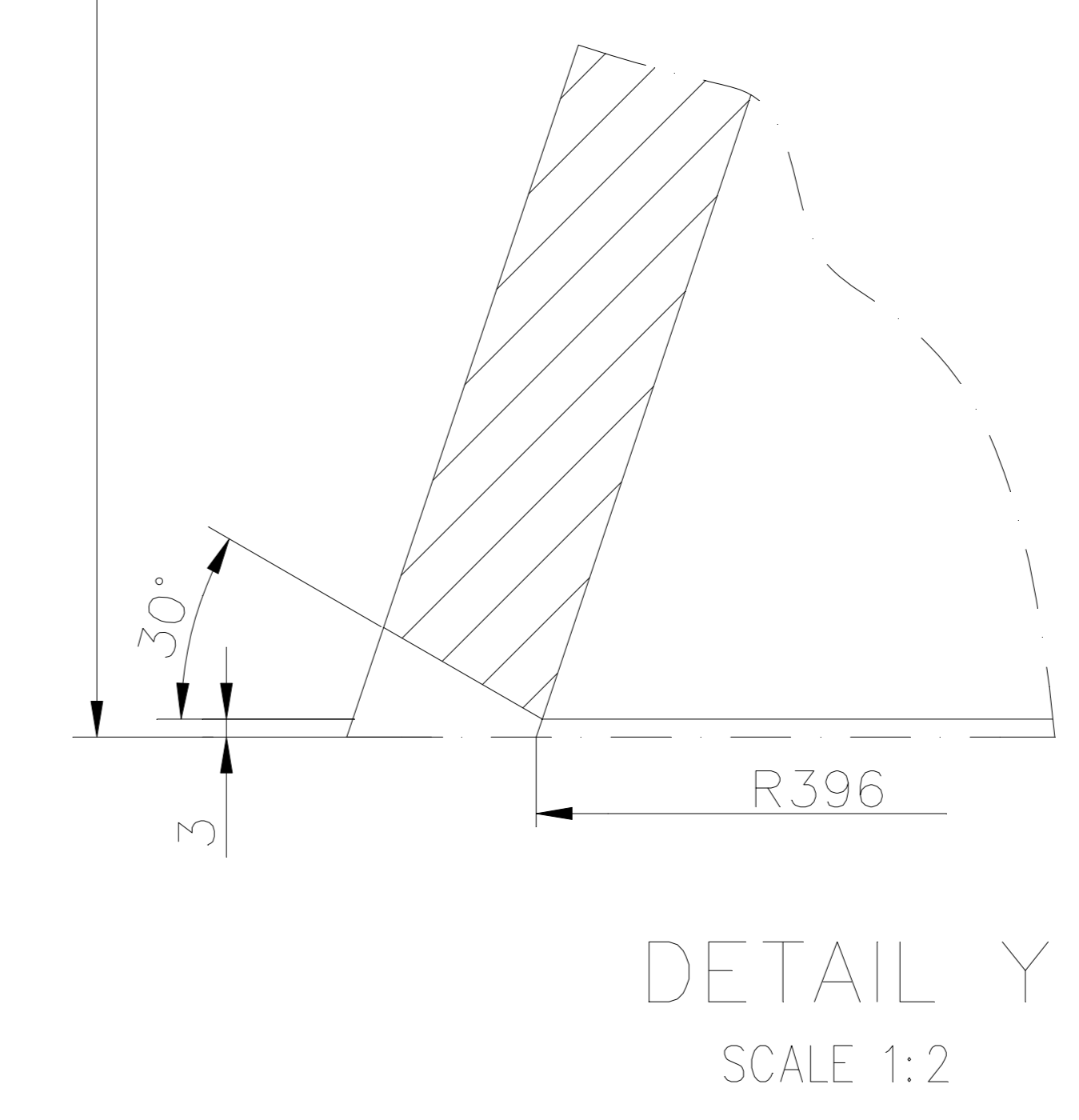
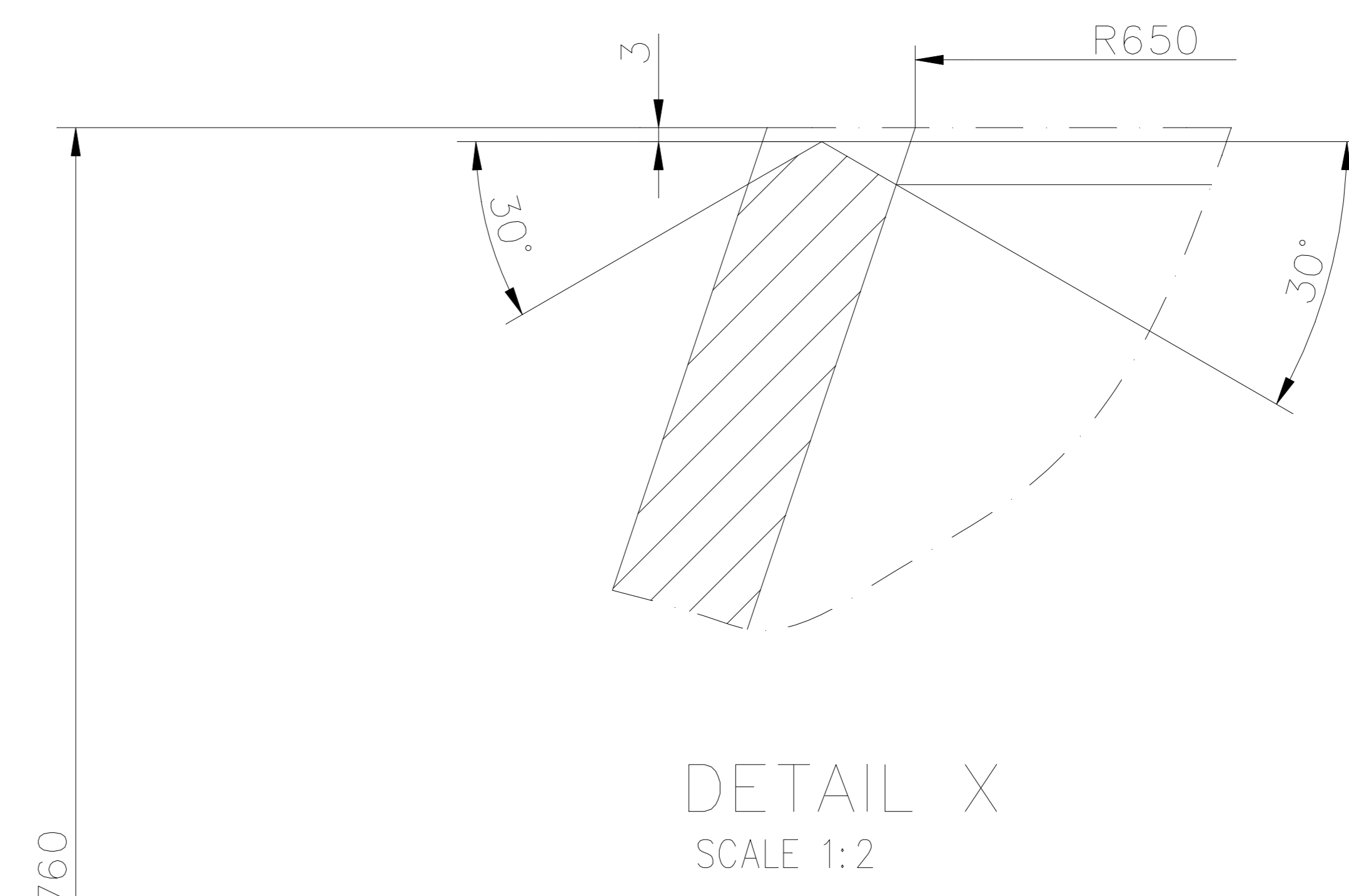
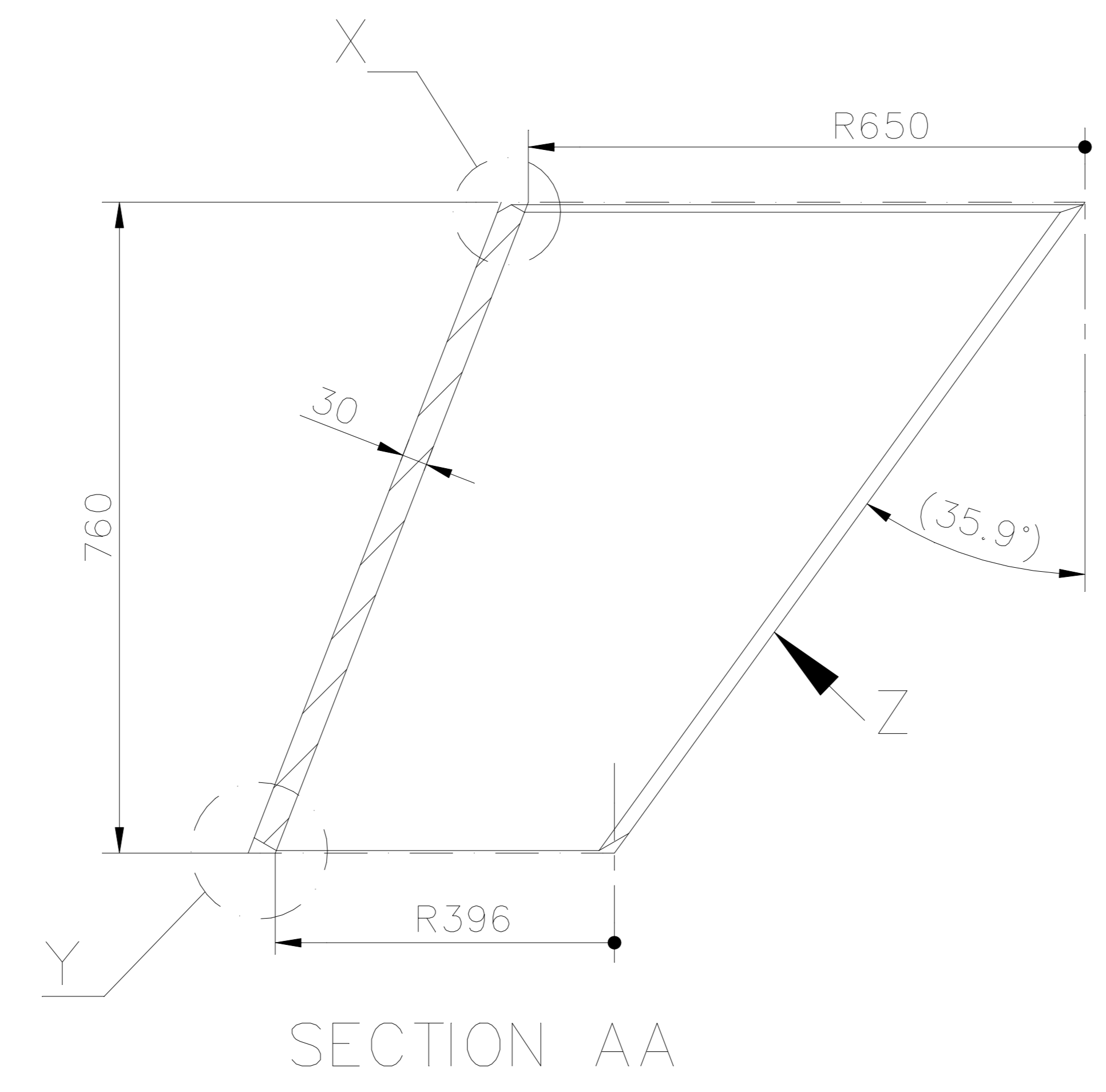
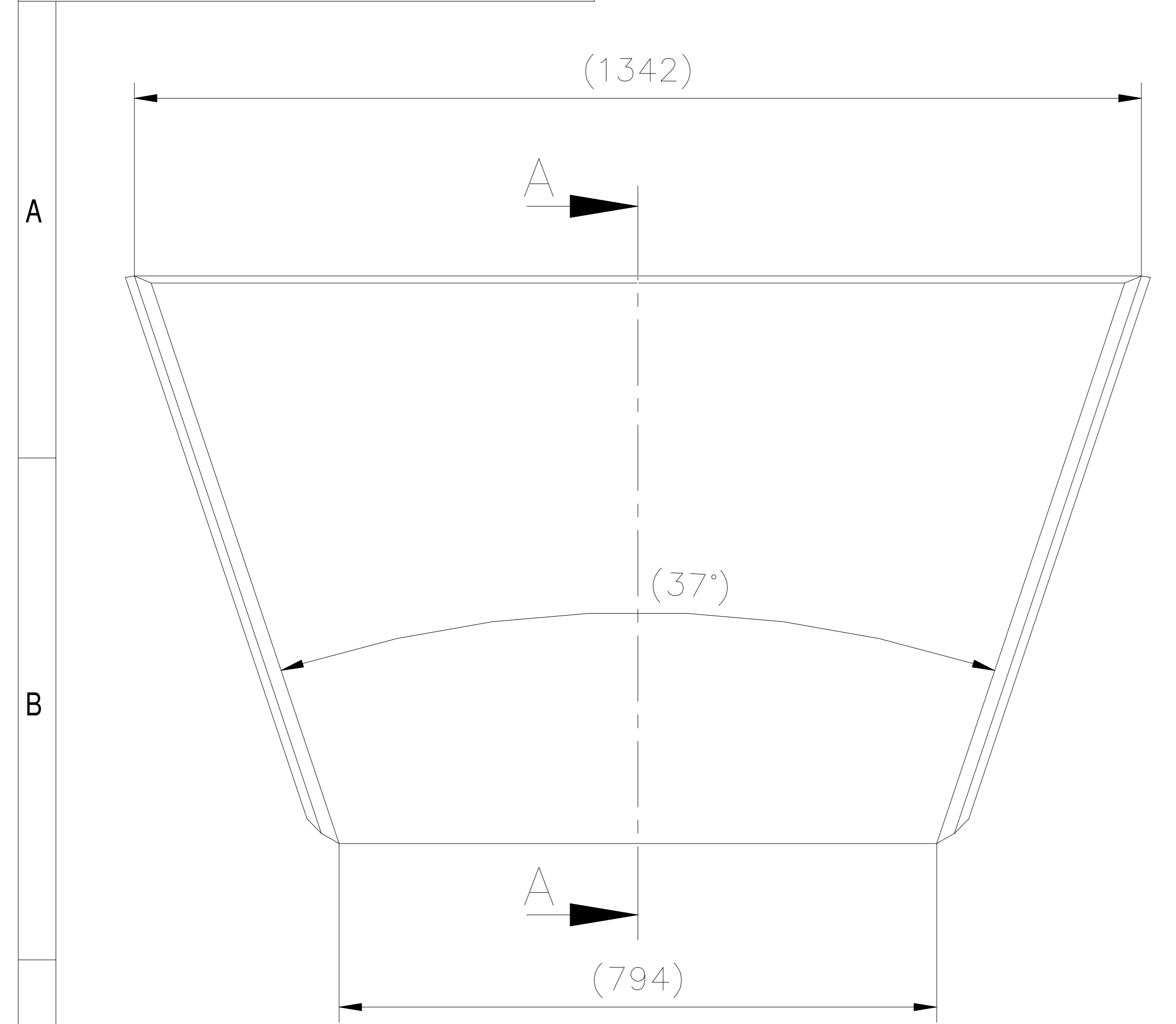
DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011	1:4	121	9-10742-58000	121	75 77

TITLE :	CARD CODE	DRAWING NO.
PLATE	7	2-10742-58121

DRAWING No. 2-10742-58122

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TECHNICAL REQUIREMENT
1. IDENTIFICATION ACCORDING TO HW 0400397.

SECTION BB (TURNED)
SCALE 1:2

Inventory No. TIN NO.
Sign & Date
Ref. Drawing No. DSPPG-0127041
TIN NO. PSK046L660.

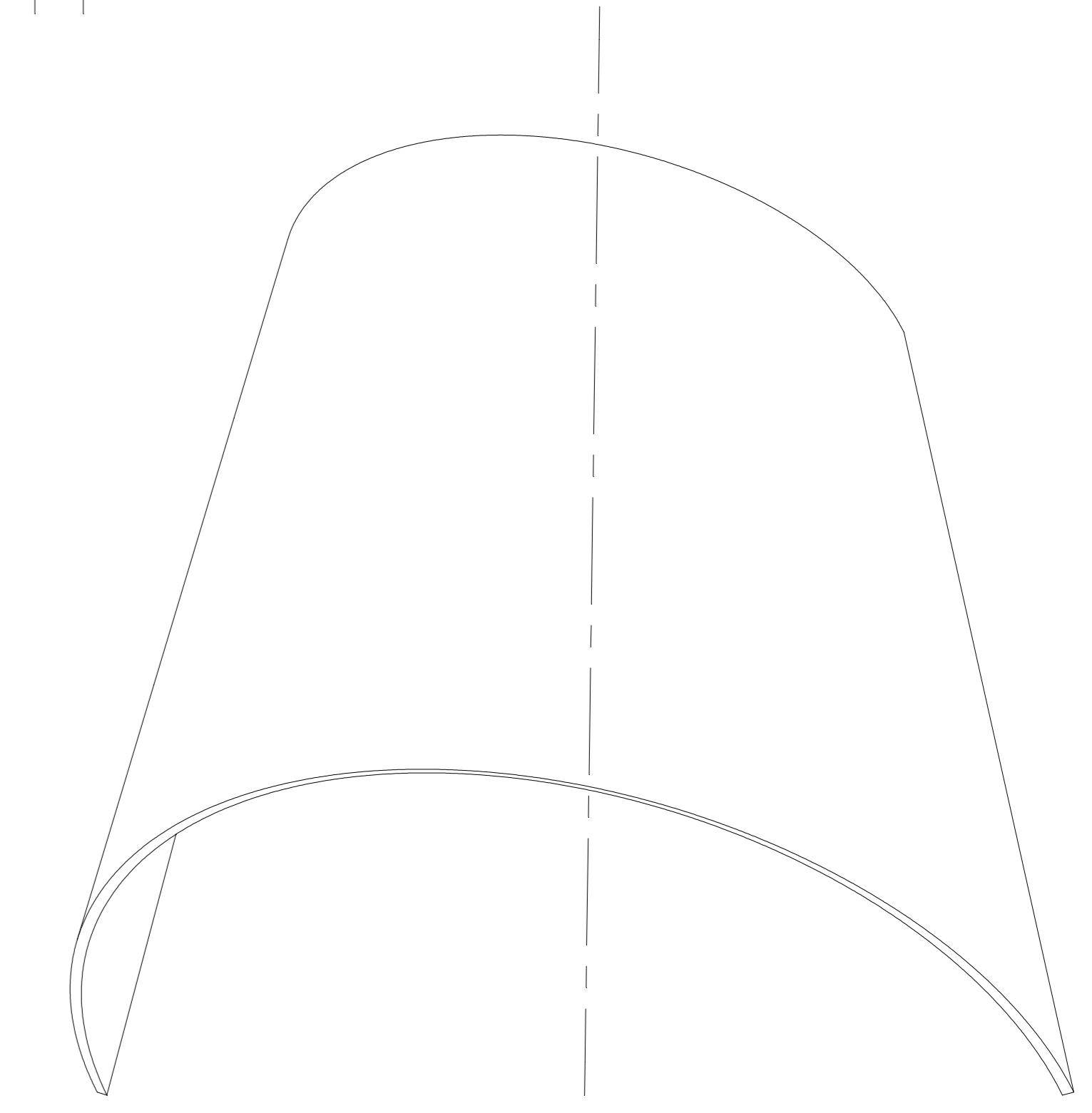
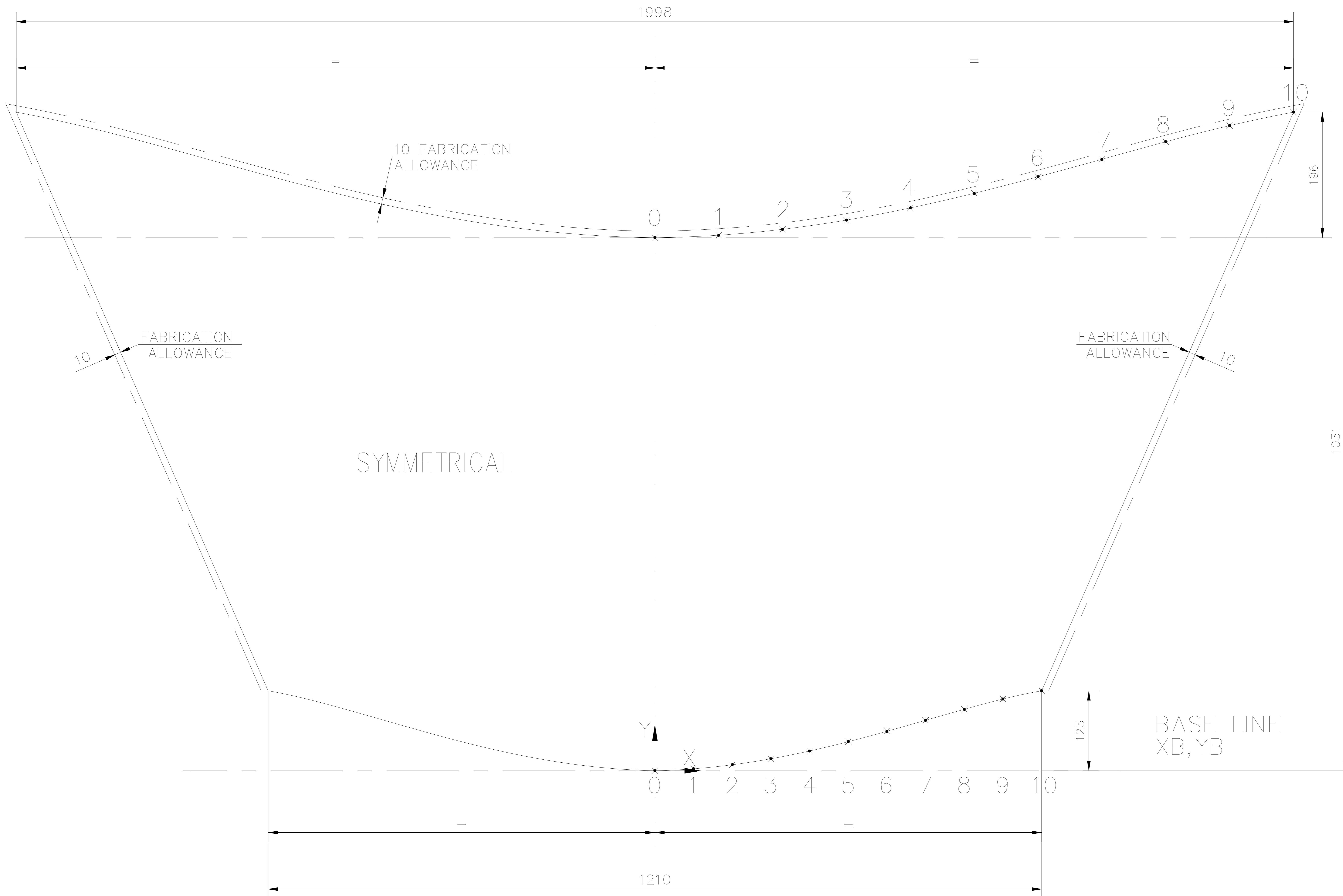
GRADE OF UNTOL.DIM		AGREED DEPT		NAME		SIGN		DATE		STATUS OF DRG	
M/CG.-C/M/F AA0230208		WT		H. VERMA		SD/-		28.07.12		9-10742-58000	
WELDING-A/B/C/D // AA0621104											
GAS CUTTING-T3'AA0621101											

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				STEAM TURBINE							
DEPT		STE	SCALE	WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.		NO. OF ITEMS	
CODE 4011			1:10	304.00		9-10742-58000		122		75 77	
TITLE : PLATE				CARD CODE		DRAWING NO. 2-10742-58122		22 23 24			
				SHEET No. 01		No. OF SHEETS 02					

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
1			2			3			4			5			6		

DRAWING No. 2-10742-58122

50 / ALL OVER EXCEPT OTHERWISE STATED



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

DEVELOPMENT OF PLATE

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Inventory No. Sign & Date Ref. Drawing No. DSPPG-0127041 TIN No. PSK0461660

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			
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	-SD/-	28.07.12

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE			
DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.
CODE 4011		1:5	304	9-10742-58000	122
TITLE : PLATE		CARD CODE	DRAWING NO. 2-10742-58122		
			SHEET No. 02 No. OF SHEETS 02		

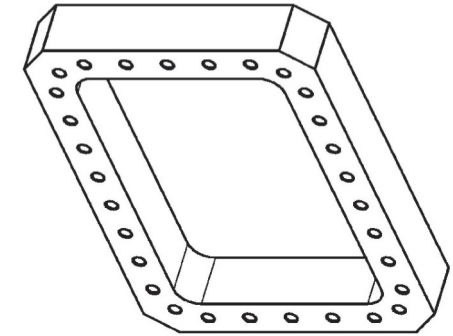
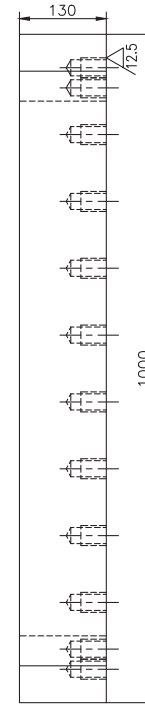
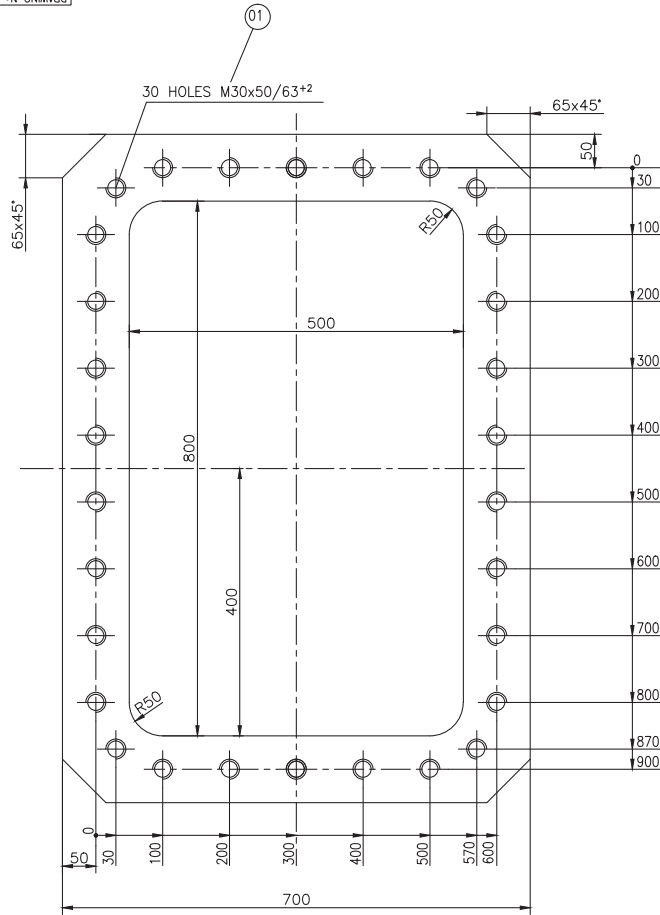
REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 44(B)

2-10742-58123
DRAWING No.



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Inventory No.
Sign & Date
Refdrawing No.
TIN NO.

PS046L661

DSPFG-0127067

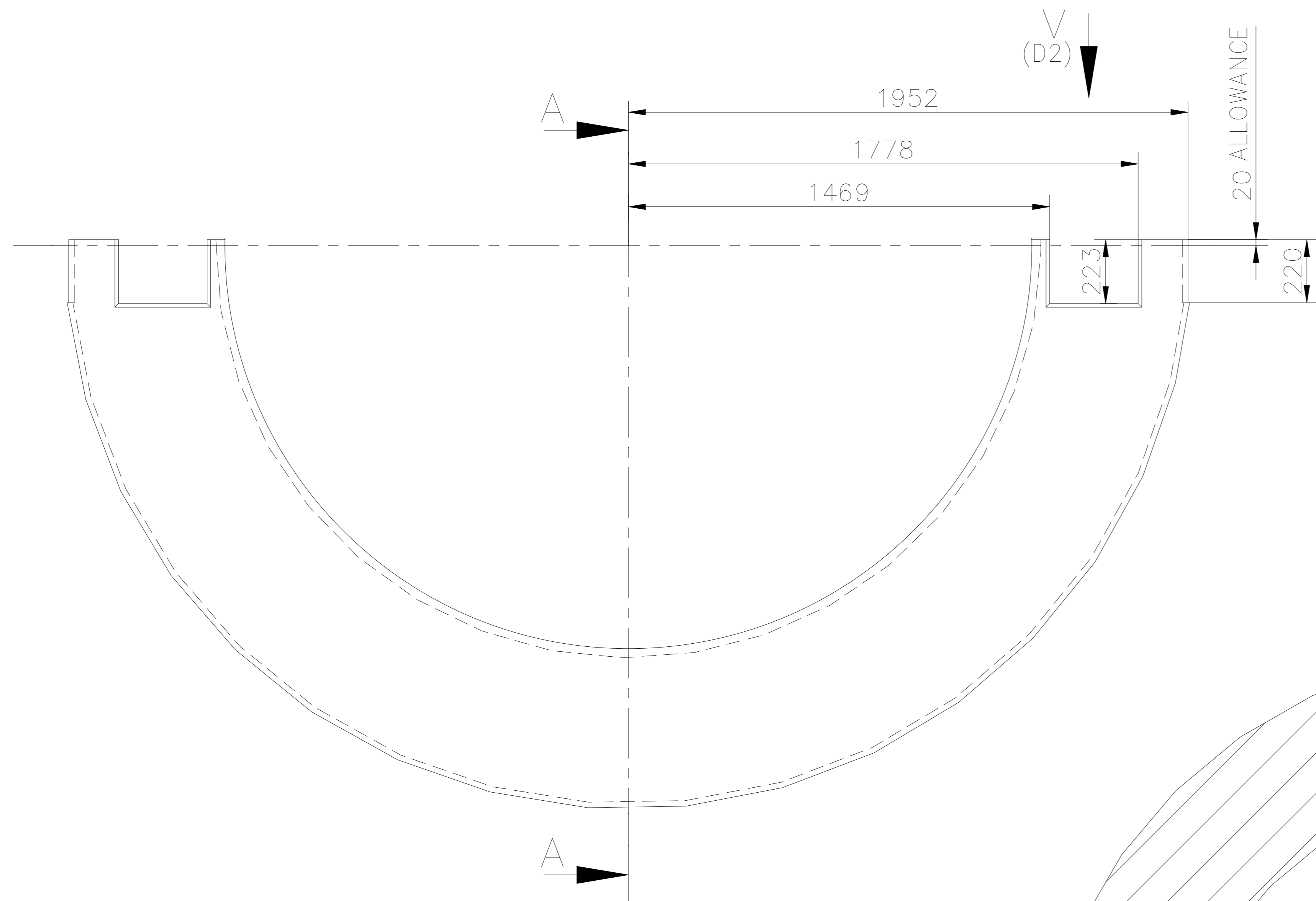
TECHNICAL REQUIREMENTS:-
1. IDENTIFICATION ACCORDING TO HW 0400397.

CBOM No. 9-10742-58000		STATUS OF DRG		TYPE OF PRODUCT STEAM TURBINE			
GRADE OF UNTOL. DIM		NAME		OR		NAME OF CUSTOMER/PROJECT	
M/CG.- AA0230208 m		H. VERMA		sd/-		28.07.12	
WELDING-CLASS 'B' OF AA0621104		SIGN		DATE			
GAS CUTTING-TABLE 3 OF AA0621101		SD/-		DATE			
REV		DATE		ALTERED MANOJ SD/-			
01		11.8.18		CHECKED DINESH SD/-			
CHANGES MADE AS PER CHANGE ADVICE.		C/A NO. STE-18-F0203.		DEPT		STE	
				CODE 4011		SCALE 1:5	
				WEIGHT (KG) 292.00		REF. TO ASSY. DRG. 9-10742-58000	
				TITLE : FLANGE		CARD CODE	
				DRAWING NO. 2-10742-58123		ITEM No. 123	
				SHEET No. 1		No. OF SHEETS 1	

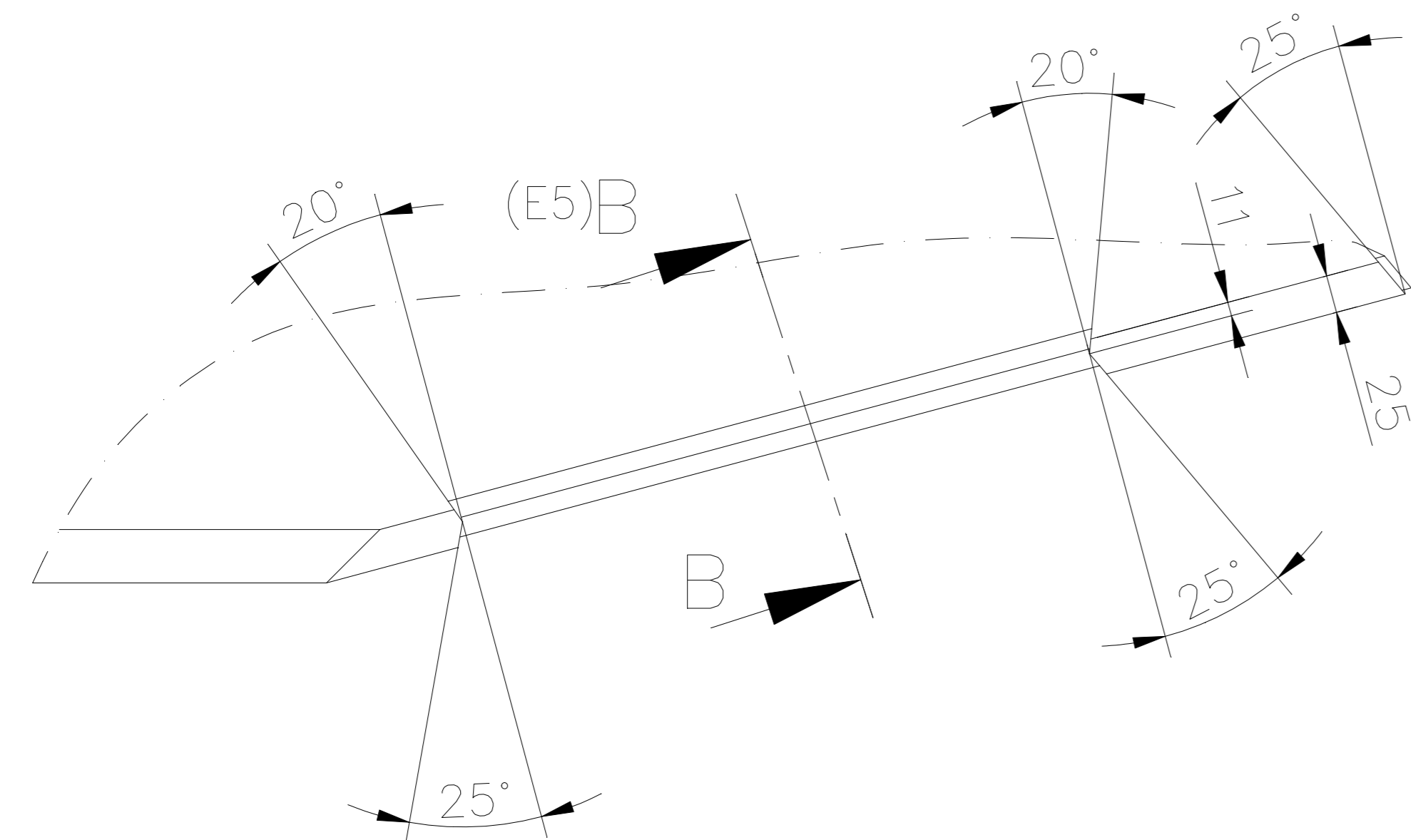
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SIZE A2

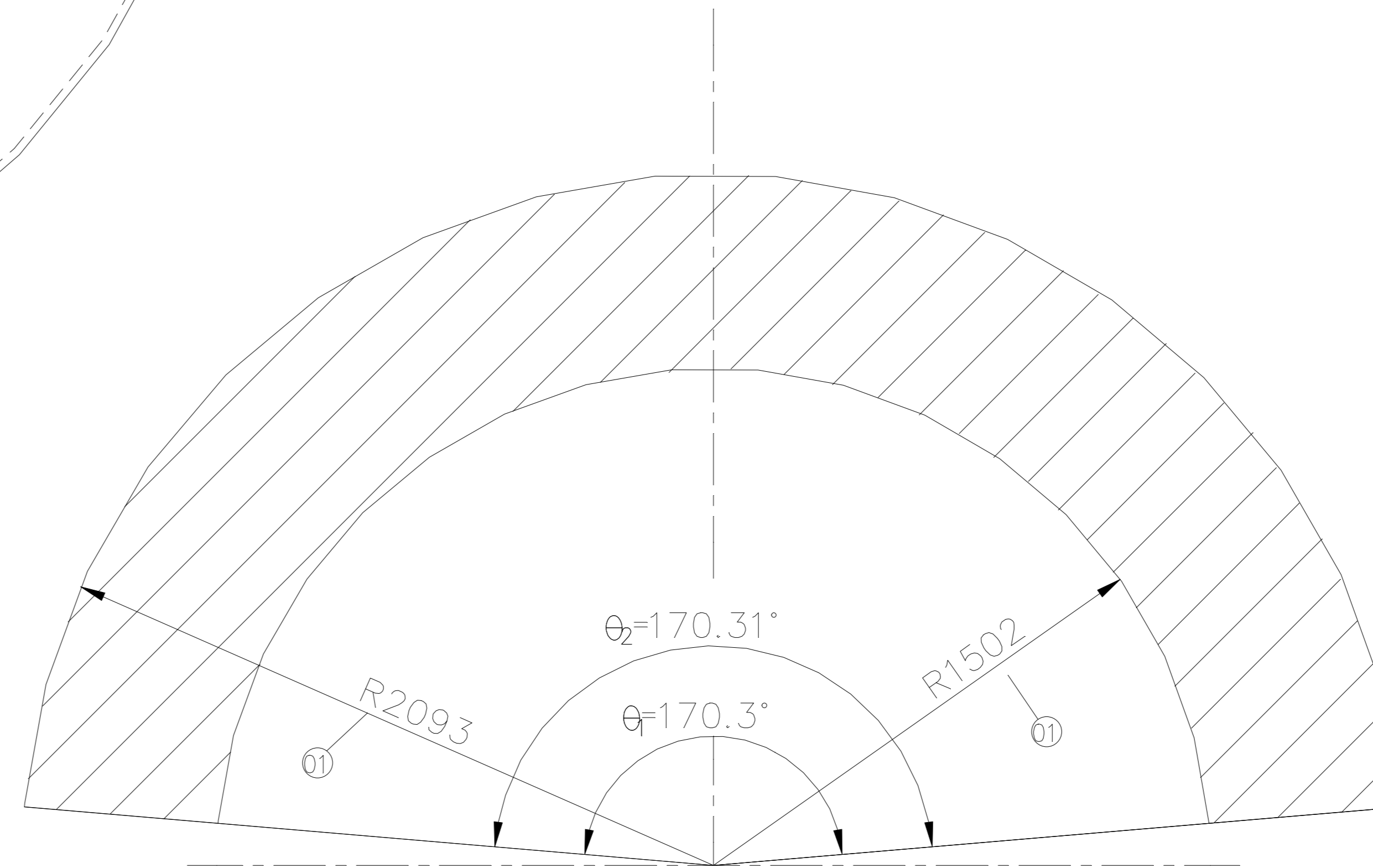
2-10742-58213
DRAWING NO.



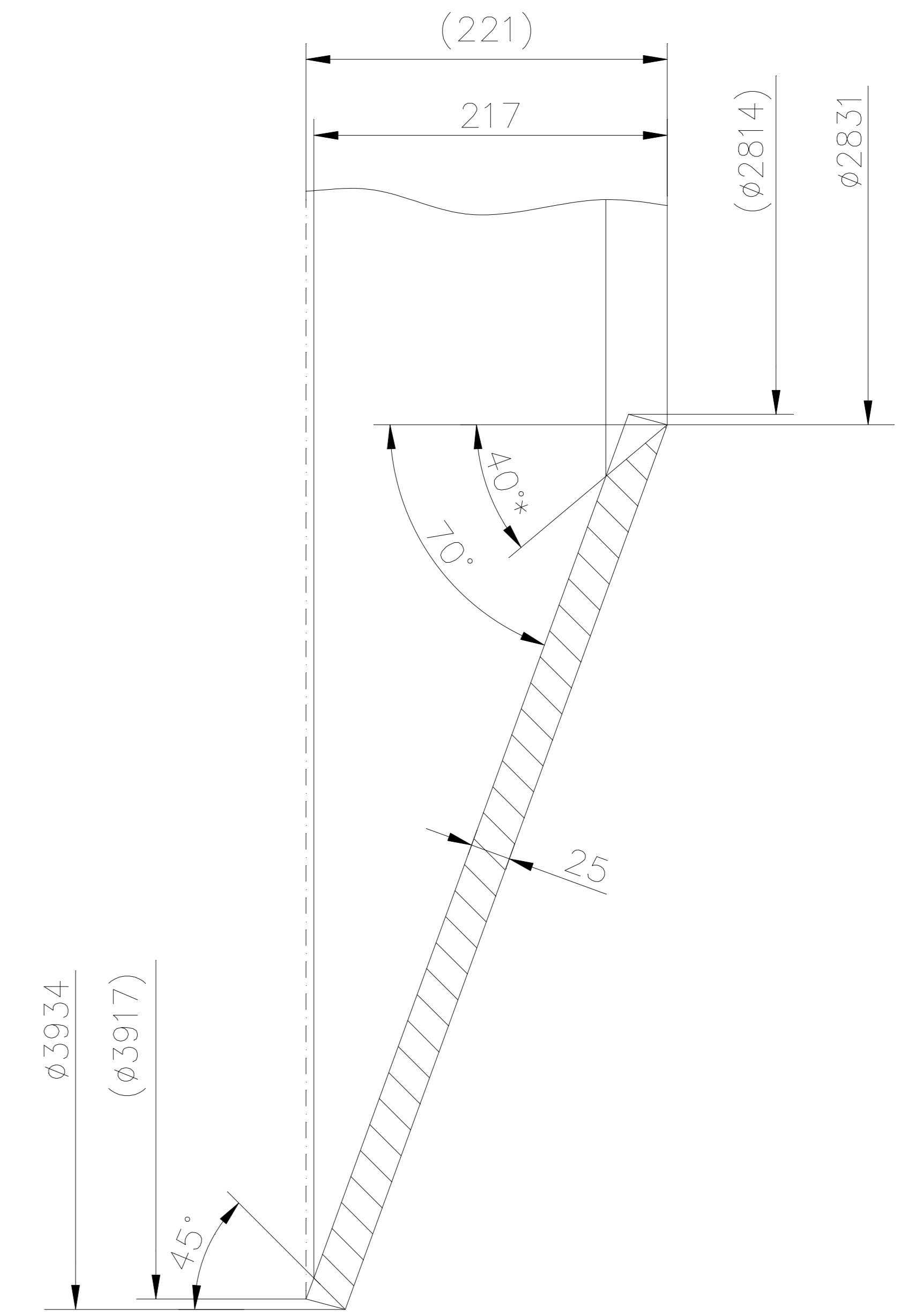
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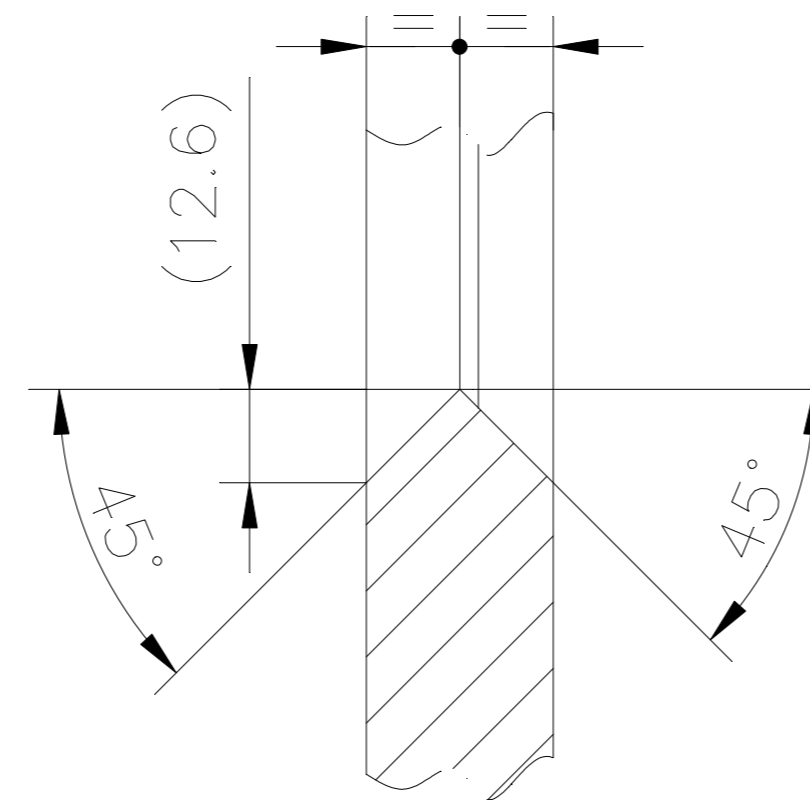
VIEW V (A4)
SCALE 1:5



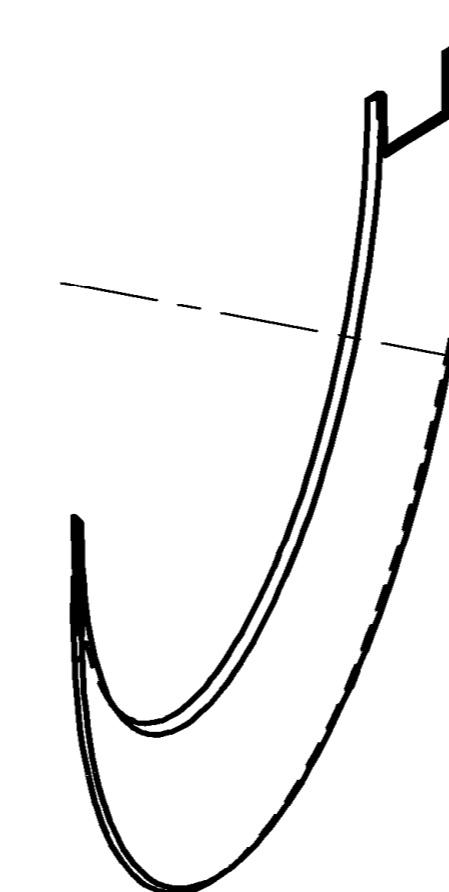
DEVELOPMENT OF CONE
SCALE 1:50



SECTION AA (A3)
SCALE 1:5

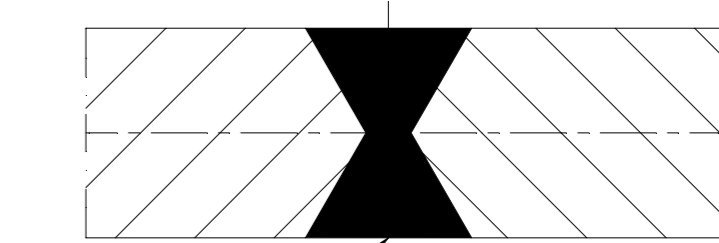


SECTION BB (D2)
SCALE 1:2



1:40

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

TECHNICAL REQUIREMENTS: -

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

Inventory No. Sign & Date Ref. Drawing No. DSPPG-0127031 TIN NO. PSK046L674

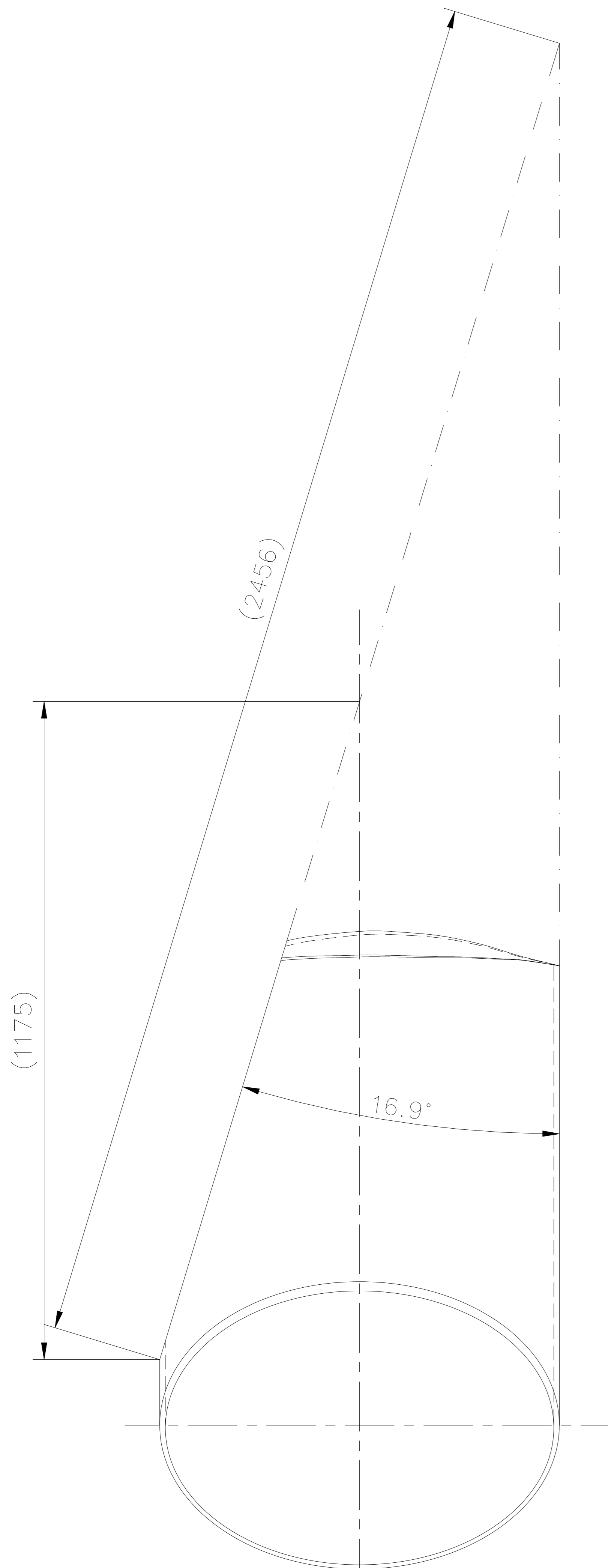
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			CHECKED			CHECKED			CHECKED			CHECKED			CHECKED			CHECKED			CHECKED
1				2			3			4			5			6					

GRADE OF UNTOL. DIM		AGREED DEPT		NAME		SIGN		DATE	
M/CG.- AA0230208 m		WT		H. VERMA		sd/-		22.08.12	
WELDING-CLASS 'B' OF AA0621104									
GAS CUTTING-TABLE 3 OF AA0621101									
REV	DATE	ALTERED	MONIKA	REV	DATE	ALTERED	DINESH		
01	25.05.13	CHECKED							
DATE & NO. OF SHEET UPDATED		AS PER C/A NO. STE-13-F0205.							

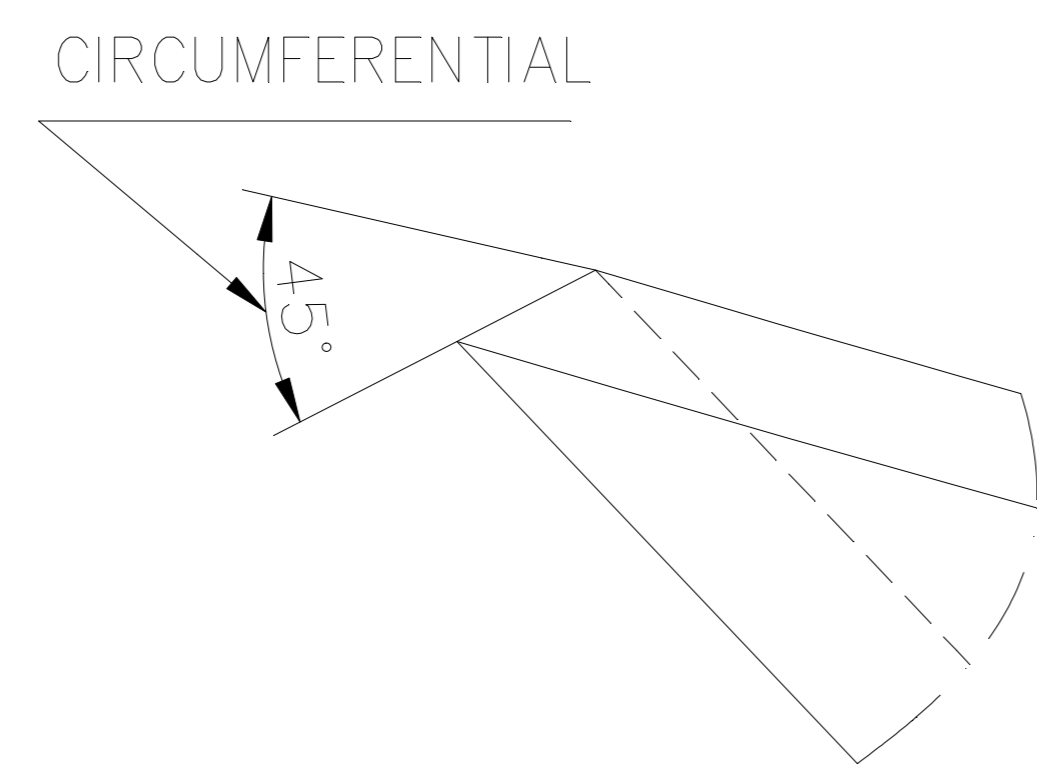
CBOM No. 9-10742-58000		STATUS OF DRG		TYPE OF PRODUCT STEAM TURBINE		OR		NAME OF CUSTOMER/PROJECT	
BHARAT HEAVY ELECTRICALS LTD.		RANIPUR, HARDWAR		DEPT STE		SCALE 1:20		WEIGHT (KG) 557.00	
DRAWING NO. 2-10742-58213		SHEET No. 1		No. OF SHEETS 2		REF. TO ASSY. DRG. 9-10742-58000		ITEM No. 213	
NO. OF VAR 73-74		NO. OF ITEMS 75-77							

2-10742-58216
DRAWING NO.

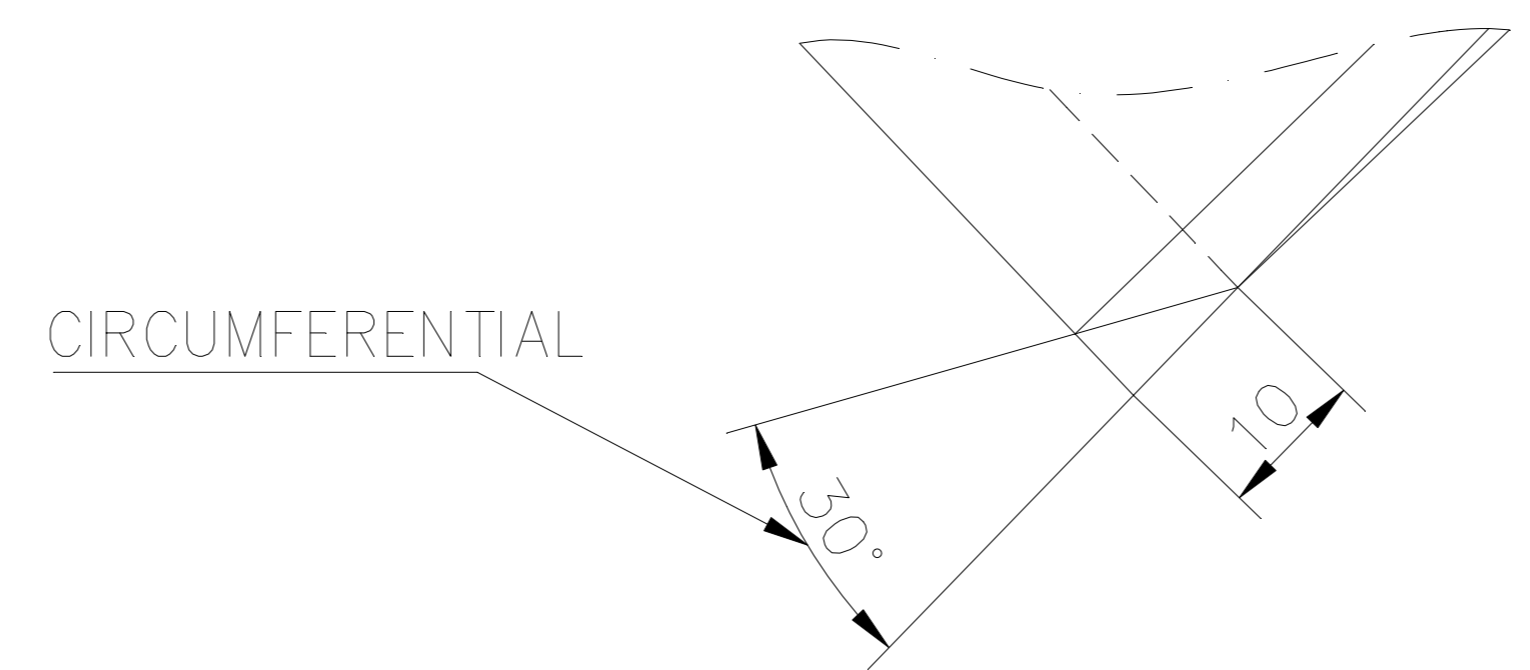
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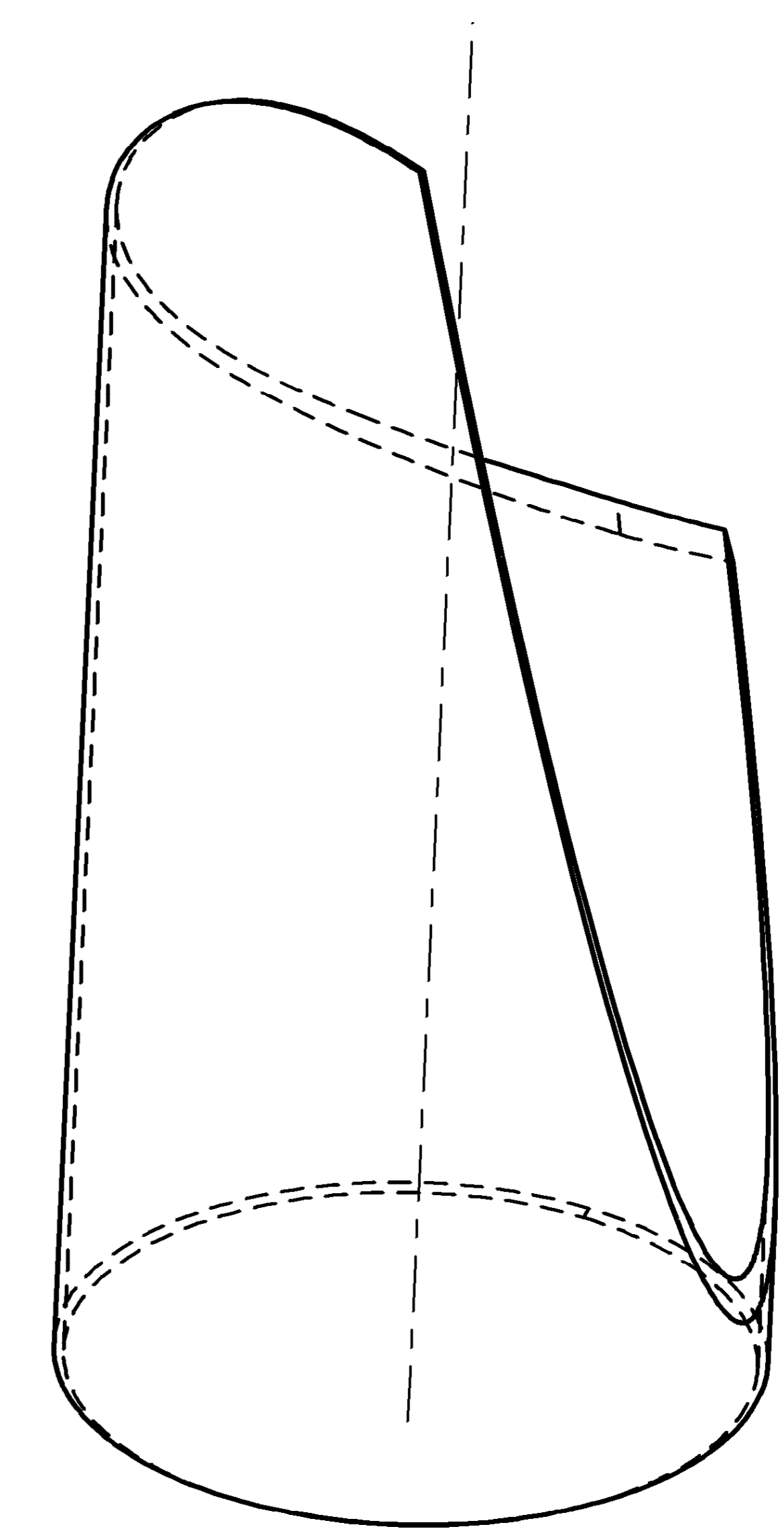
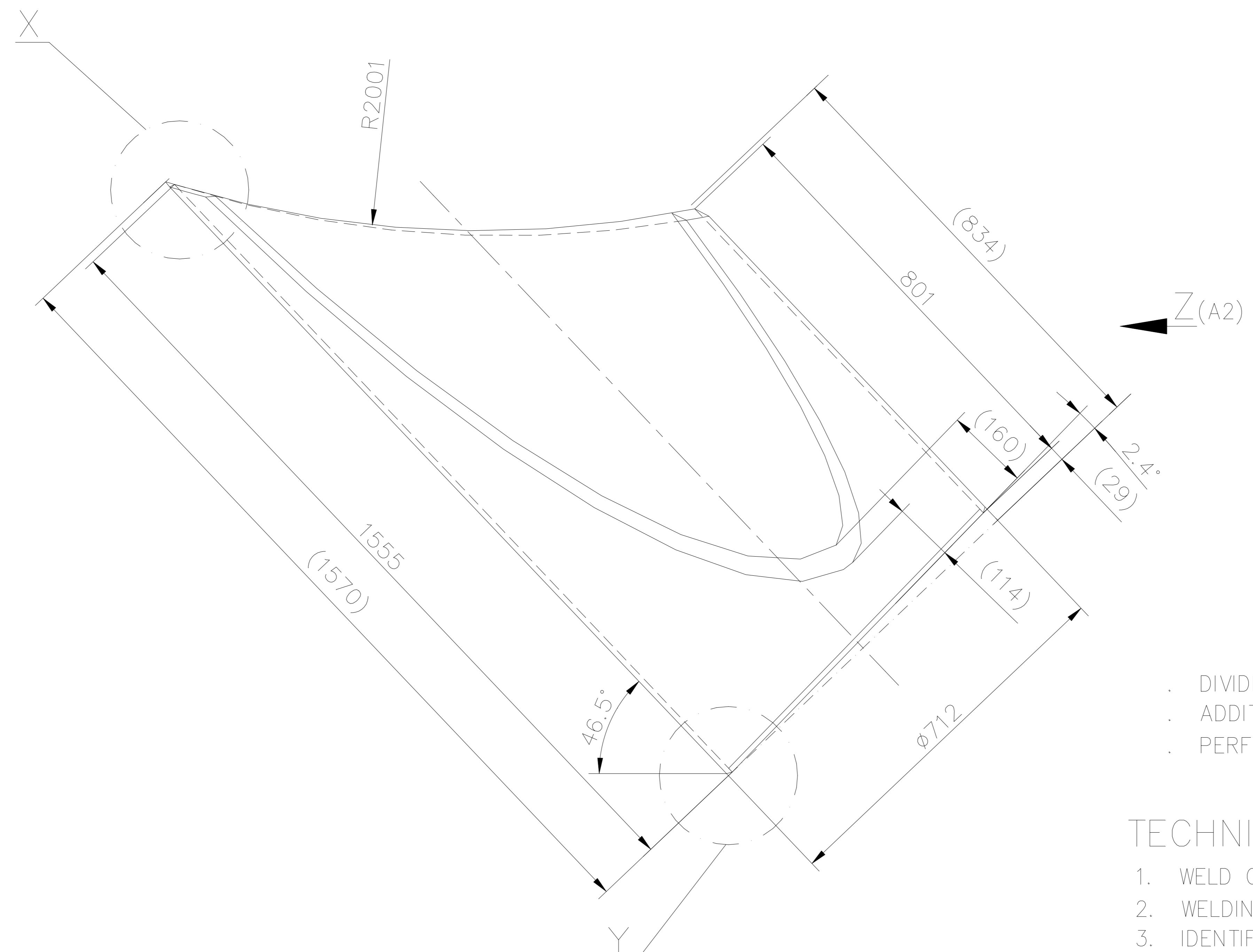
VIEW Z (D6)



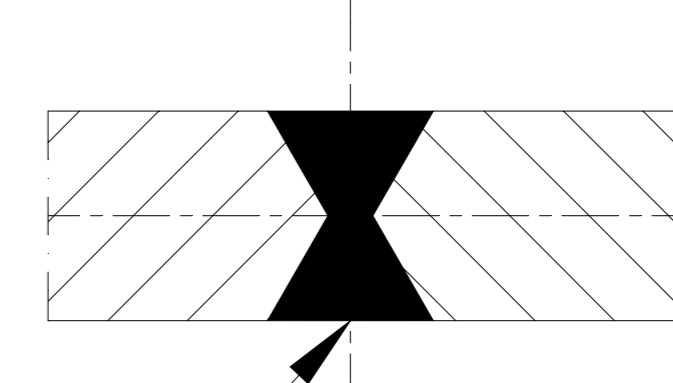
DETAIL X
SCALE 1:1



DETAIL Y
SCALE 1:1



DETAIL: FULL PENETRATION WELD



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

- 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

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

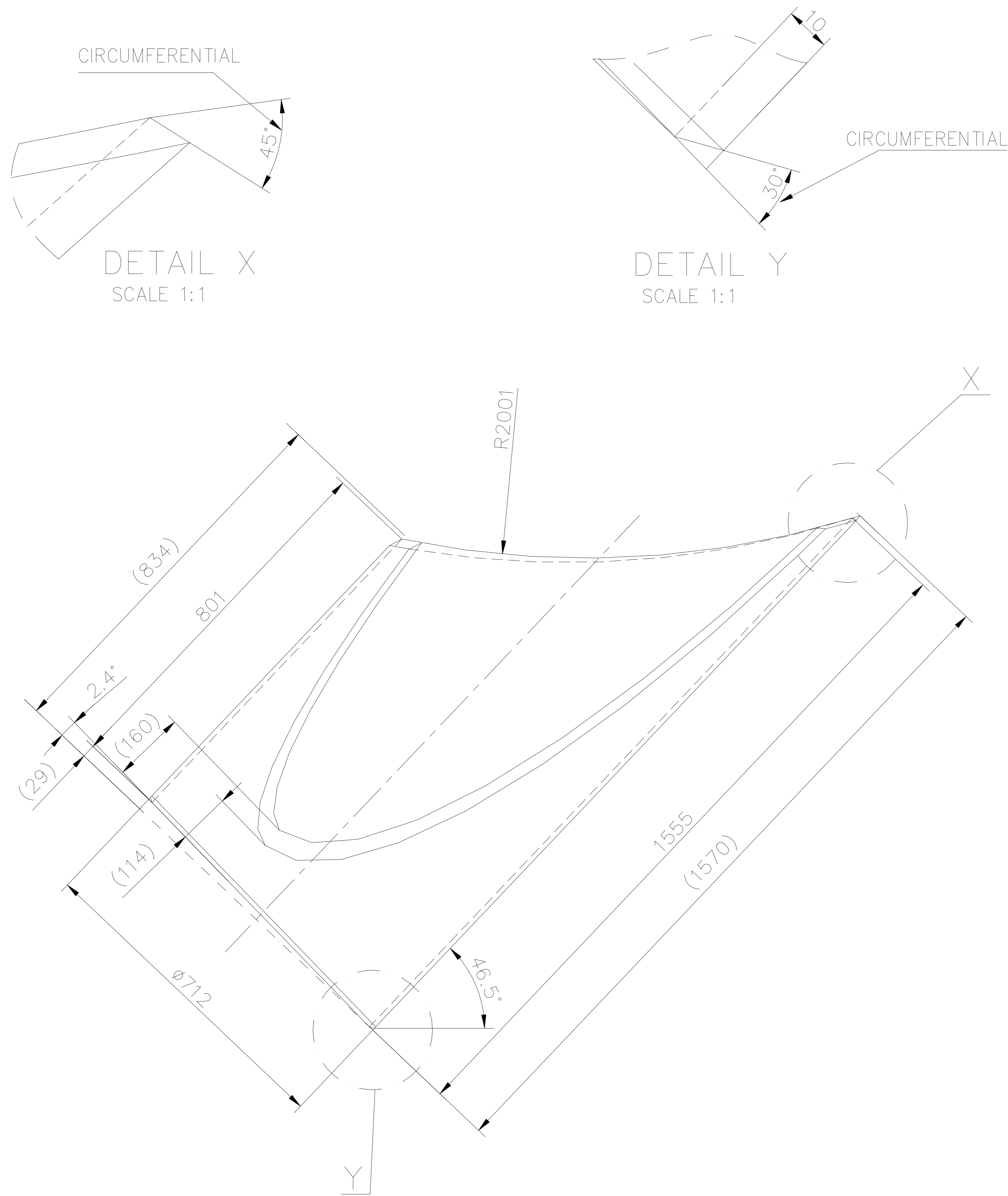
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED			CHECKED			CHECKED
1			2			3			4			5		

GRADE OF UNTOL. DIM		AGREED DEPT		NAME		SIGN		DATE	
M/CG.- AA0230208 m		WT		H. VERMA		sd/-		28.07.12	
WELDING-CLASS 'B' OF AA0621104									
GAS CUTTING-TABLE 3 OF AA0621101									
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	REV
01	18.05.13	CHECKED							
DATE UPDATED.		MONIKA		DINESH					
SH2. SUPERSEDED THE OLD DRG. UNDER THE SAME NO.									
AS PER C/A NO. STE-13-F0201.									

CBOM No. 9-10742-58000		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE	
NAME		SIGN		DATE	
DRN POONAM		sd/-		01.12.2011	
CHD DINESH		sd/-		04.12.2011	
APPD D.K.RAY		sd/-		28.07.2012	
NAME		SIGN		DATE	
BHARAT HEAVY ELECTRICALS LTD.					
RANIPUR, HARDWAR					
DEPT STE	SCALE 1:10	WEIGHT (KG) 156.00	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 216	NO. OF ITEMS 75-77
CODE 4011	TITLE : PIPE	CARD CODE	DRAWING NO. 2-10742-58216		
SHEET No. 1		No. OF SHEETS 2		NO. OF VAR 73-74	

DRAWING No. 2-10742-58217

50/ ALL OVER EXCEPT OTHERWISE STATED

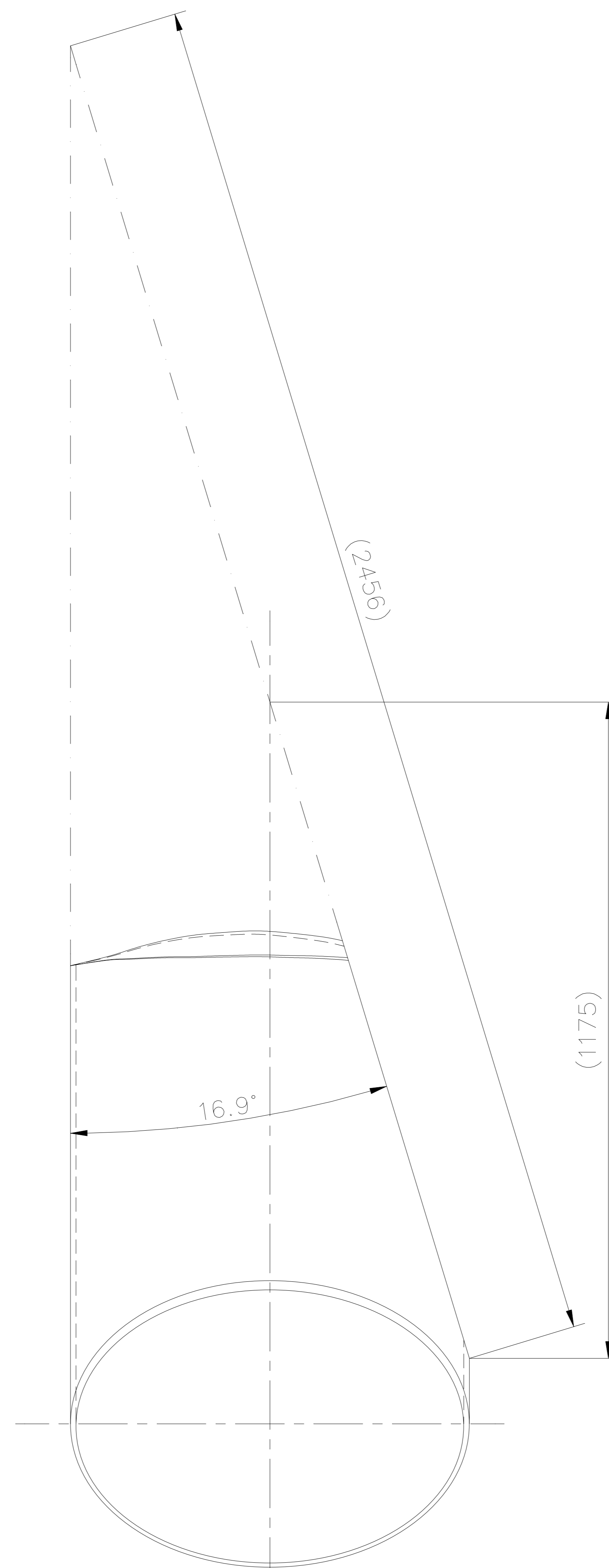


CIRCUMFERENTIAL

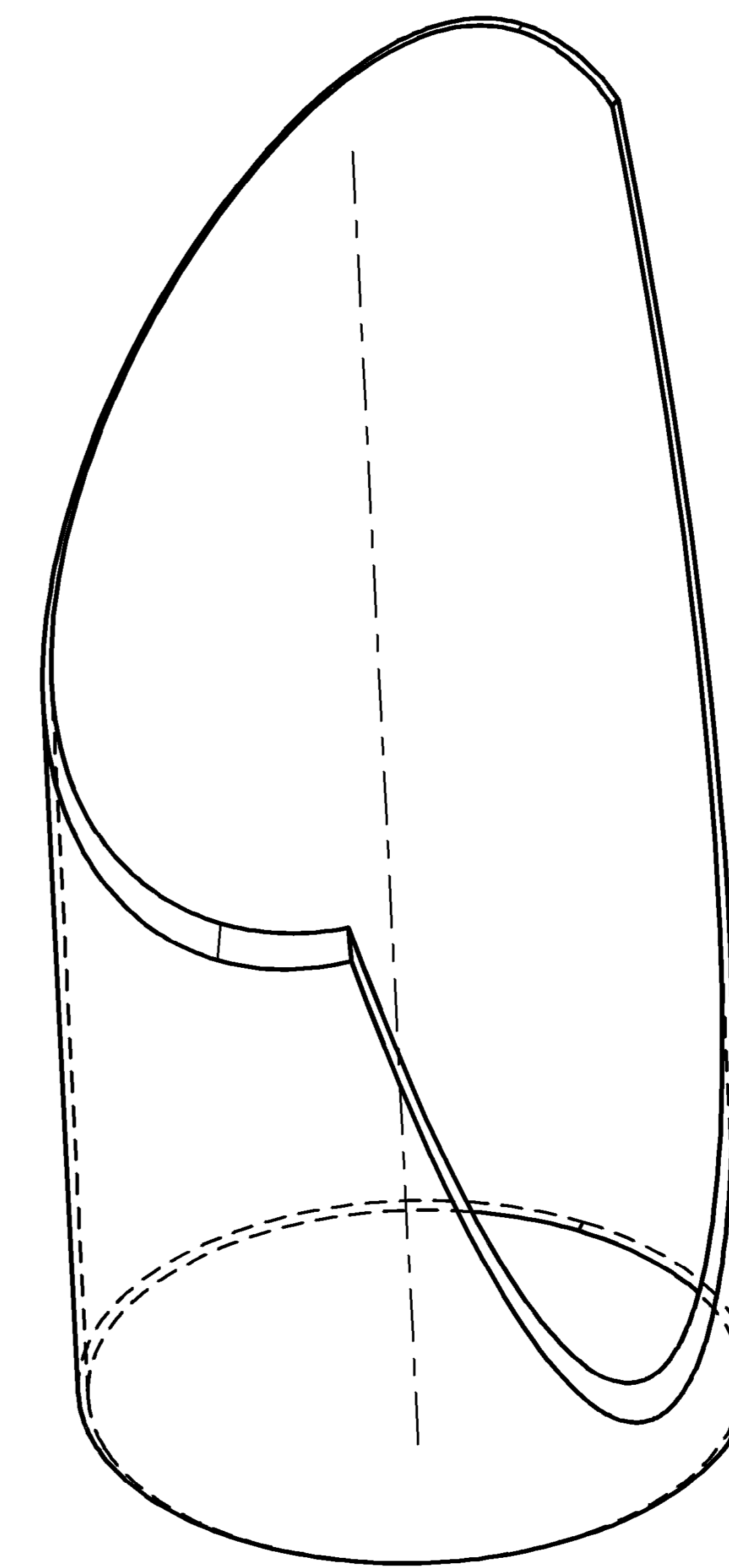
DETAIL X
SCALE 1:1

CIRCUMFERENTIAL

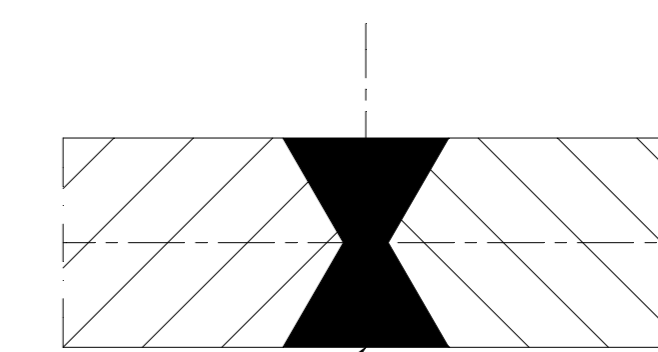
DETAIL Y
SCALE 1:1



VIEW Z



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

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

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

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

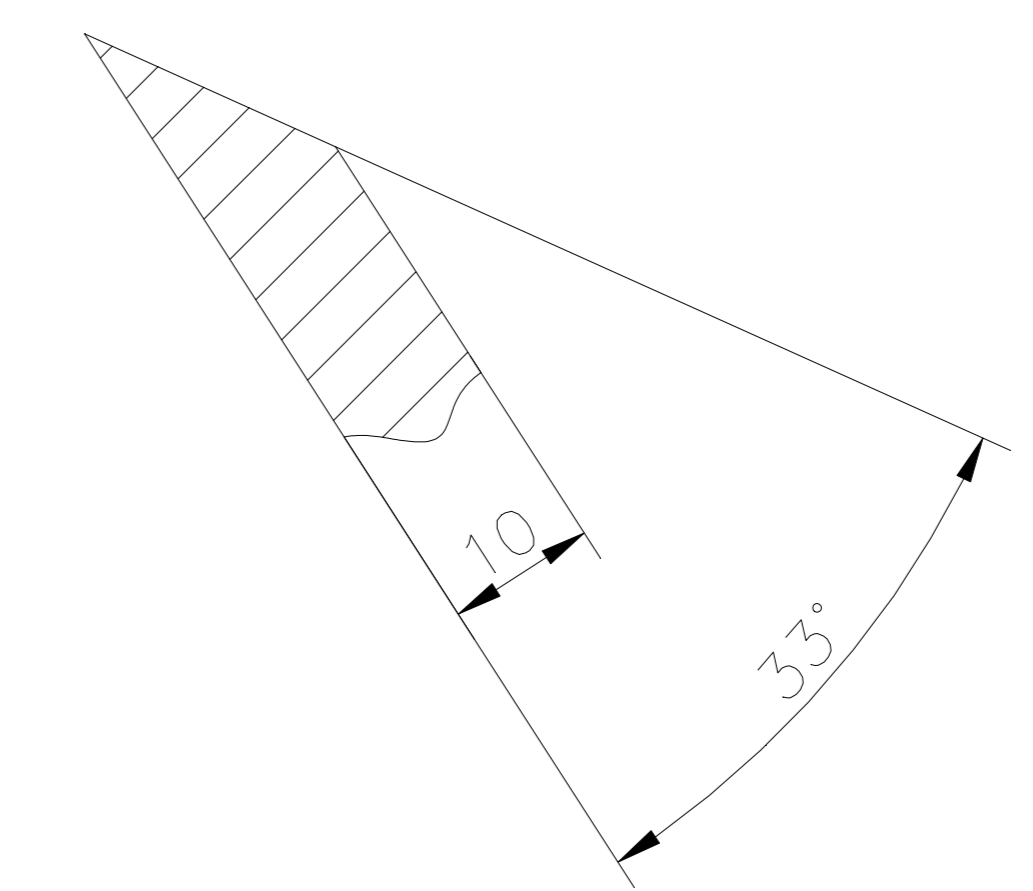
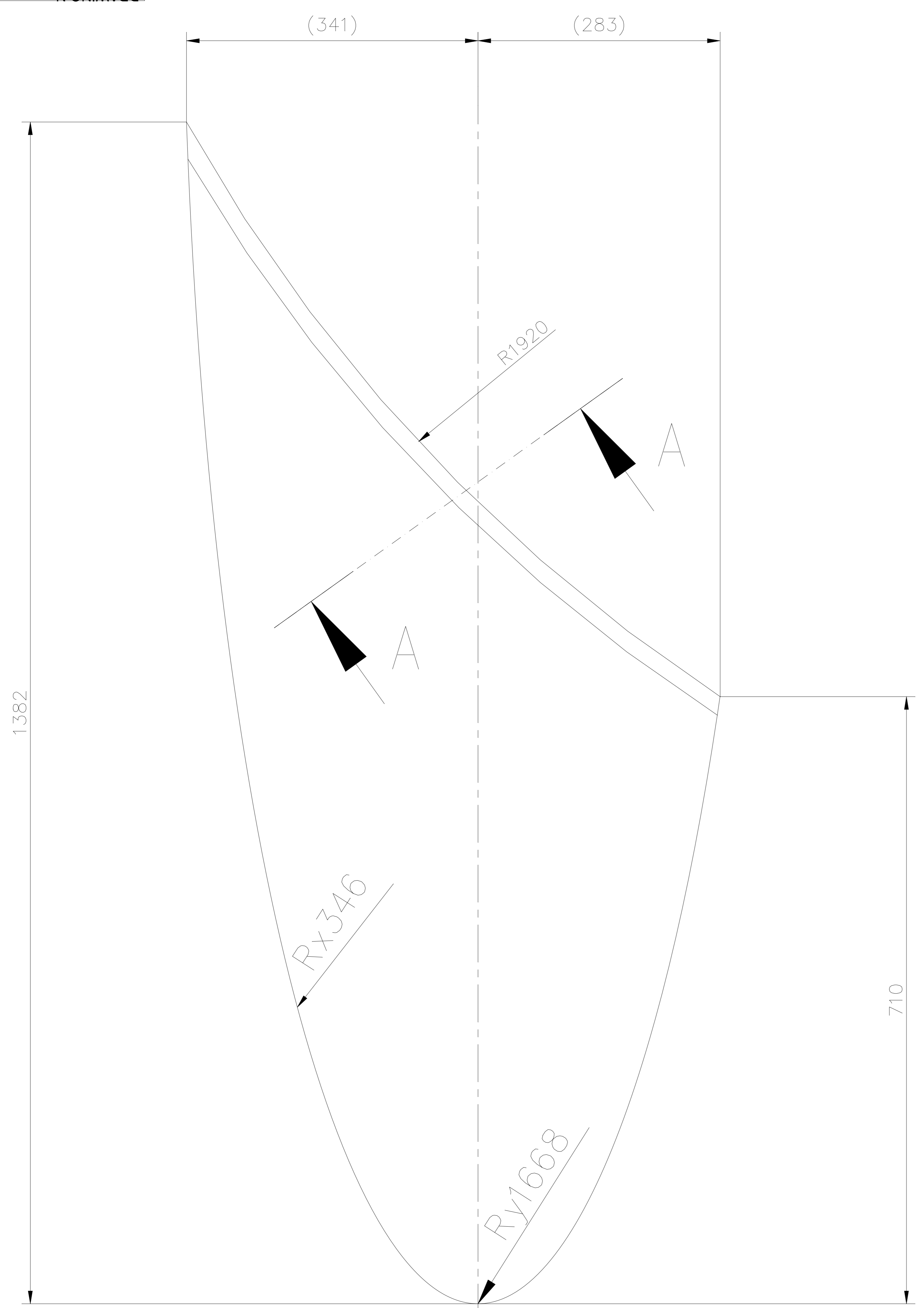
GRADE OF UNTOL. DIM		CBOM No. 9 10742 58000		STATUS OF DRG U	
M/CG.-	AA0230208 m	AGREED DEPT	NAME	SIGN	DATE
WELDING-CLASS 'B' OF	AA0621104	WT	H. VERMA	sd/-	28.07.12
GAS CUTTING-TABLE 3 OF AA0621101		REV	DATE	ALTERED	MONIKA
		01	18.05.13	CHECKED	DINESH
DATE UPDATED. SH2 SUPERSEDED THE OLD DRG. UNDER THE SAME NO. AS PER C/A NO. STE-13-F0201.					

TYPE OF PRODUCT STEAM TURBINE		NAME		SIGN		DATE		NO. OF VAR	
OR		POONAM		sd/-		02.12.2011		73 74	
NAME OF CUSTOMER/PROJECT		DINESH		sd/-		04.12.2011		75 77	
		D.K.RAY		sd/-		28.07.12			
DEPT STE		SCALE 1:10		WEIGHT (KG) 156.00		REF. TO ASSY. DRG. 9-10742-58000		ITEM No. 217	
CODE 4011		TITLE : PIPE		CARD CODE		DRAWING NO. 2-10742-58217			
				SHEET No. 1		No. OF SHEETS 2			

50 / ALL OVER EXCEPT OTHERWISE STATED

DRAWING No. 2-10742-58234

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SECTION AA
SCALE 1:1

TECHNICAL REQUIREMENT:-
1. IDENTIFICATION ACCORDING TO HW 0400397

Inventory No. Sign & Date Ref. Drawing No. > DSRPG-0127047 12565-322505/034 TIN NO. PSK046L692

GRADE OF UNTOL.DIM		AGREED DEPT		NAME		SIGN		DATE		STATUS OF DRG	
M/CG.-C/M/F AA0230208		WT		H. VERMA		-SD/-		28.07.12		U	
WELDING-A/B/C/D		/ /		AA0621104							
GAS CUTTING-T3'AA0621101											

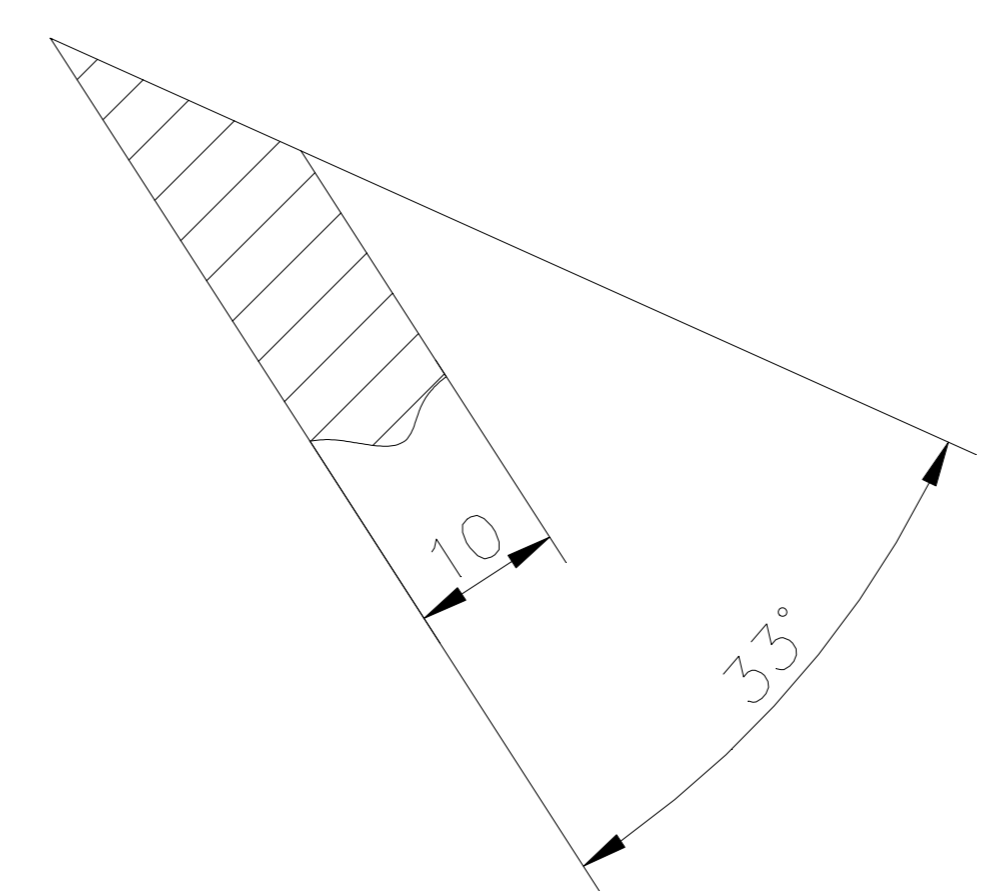
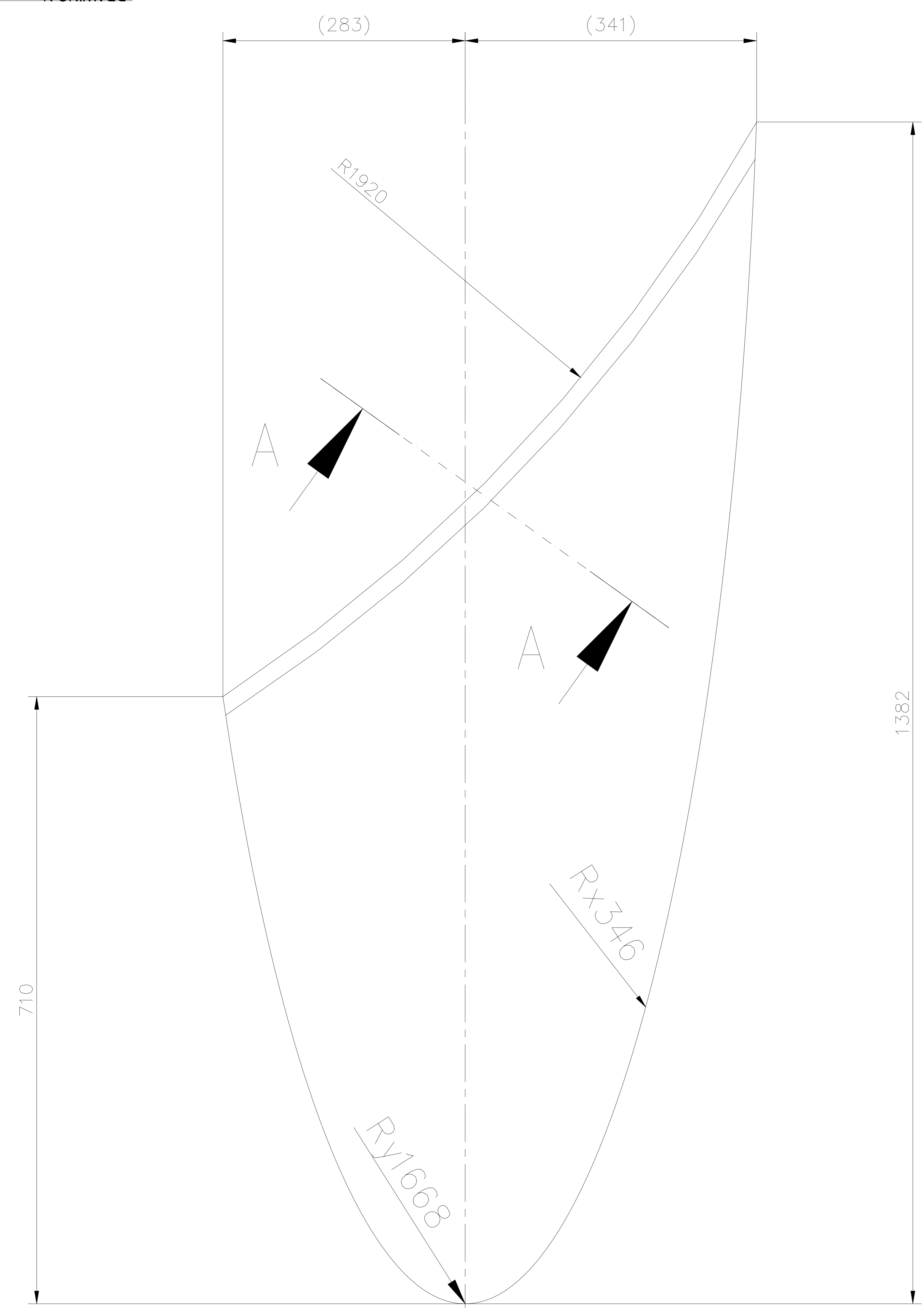
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										STEAM TURBINE									
BHARAT HEAVY ELECTRICALS LTD.										RANIPUR, HARDWAR									
DRN		NAME		SIGN		DATE		NO. OF VAR		DRN		NAME		SIGN		DATE		NO. OF VAR	
CHD		POONAM		Sd/-		1.12.2011		73		CHD		DINESH		Sd/-		2.12.2011		74	
APPD		D.K.RAY		Sd/-				75		APPD		D.K.RAY		Sd/-				77	
DEPT		STE		SCALE		WEIGHT (KG)		REF. TO ASSY. DRG.		ITEM No.		NO. OF ITEMS		DEPT		STE		SCALE	
CODE		4011		1:5		33.4		9-10742-58000		234		75		CODE		4011		1:5	
TITLE : PLATE										CARD CODE		DRAWING NO.		ITEM No.		NO. OF SHEETS		SIZE	
										7		2-10742-58234		22 23 24		01.		A2	
												SHEET No. 01.		No. OF SHEETS		01.			

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
1			2			3			4			5			6		

2-10742-58235

DRAWING No.

50 ALL OVER EXCEPT OTHERWISE STATED



SECTION AA
SCALE 1:1

TECHNICAL REQUIREMENT

- IDENTIFICATION ACCORDING TO HW 0400397

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Inventory No. Sign & Date Ref. Drawing No. > DSRPG-0127047 12565-322505/034 TIN NO. PSK046L693

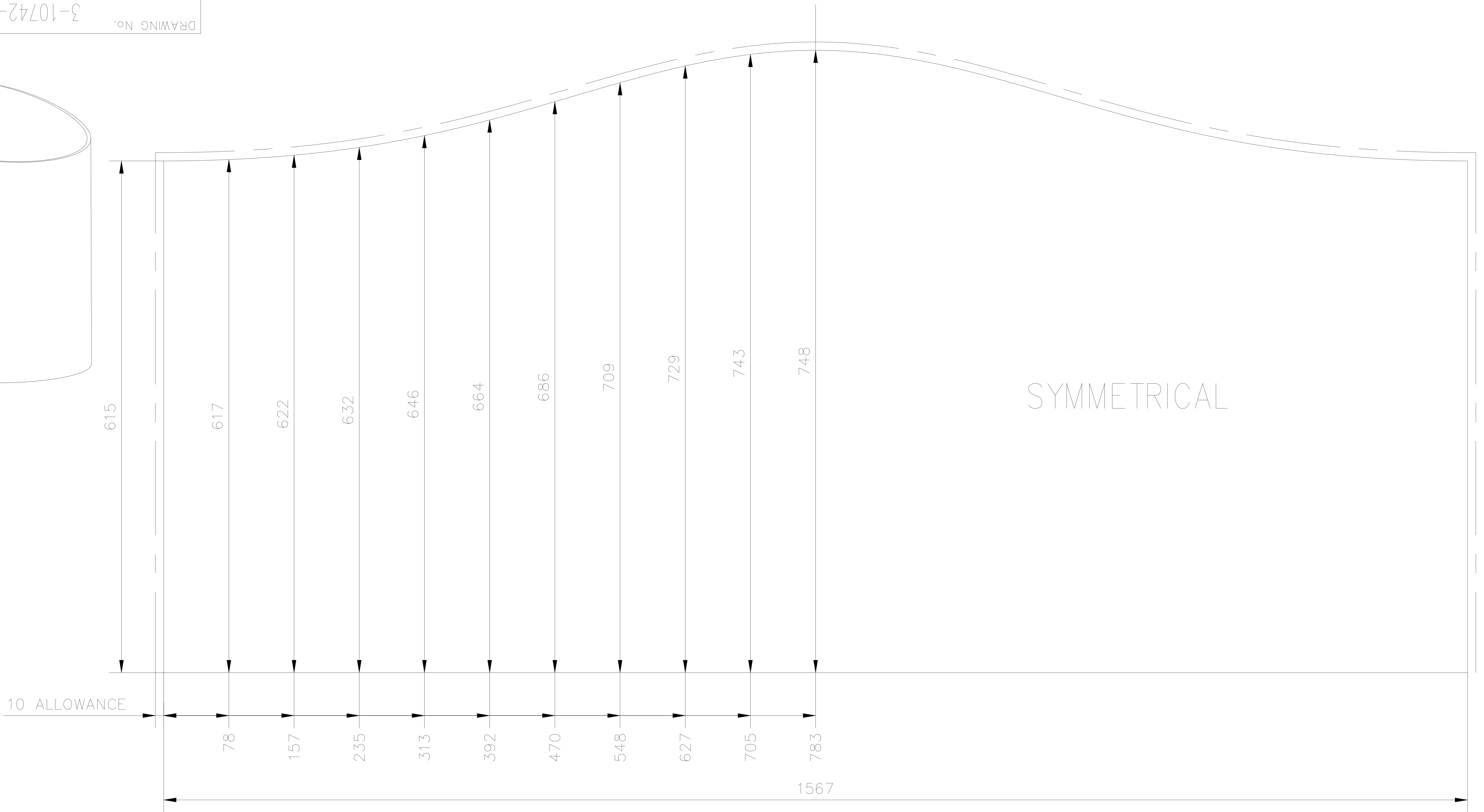
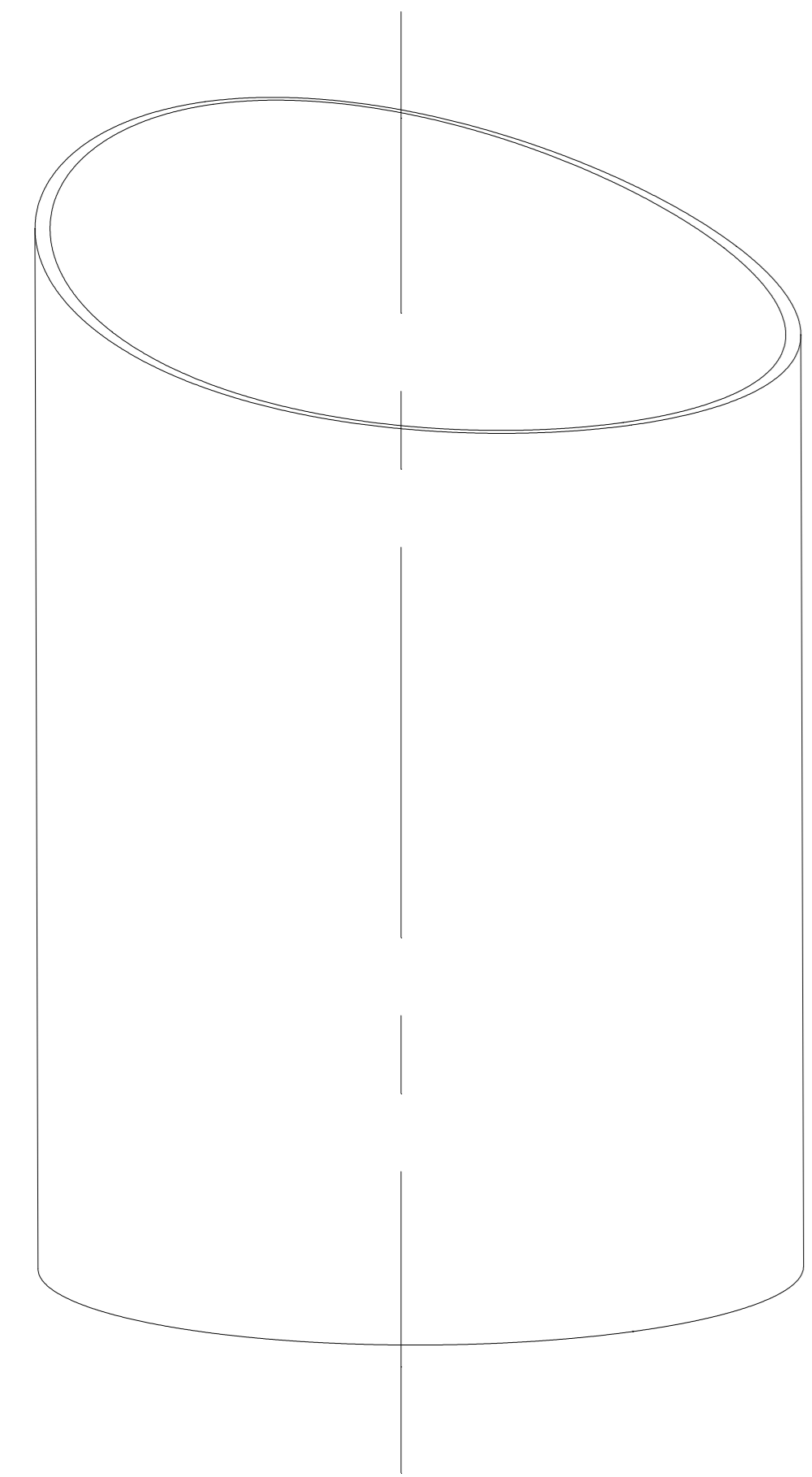
GRADE OF UNTOL.DIM		M/CG.-C/M/F AA0230208		WELDING-A/B/C/D // AA0621104		GAS CUTTING-T3'AA0621101	
AGREED	DEPT	NAME	SIGN	DATE	STATUS OF DRG		
WT	H. VERMA	-SD/-	28.07.12				

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE			
BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE
RANIPUR, HARDWAR		CHD	POONAM	Sd/-	1.12.2011
		APPD	DINESH	Sd/-	2.12.2011
		D.K.RAY		Sd/-	
DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	
4011		1:5	33.4	9-10742-58000	
TITLE :		CARD CODE	DRAWING NO.		ITEM No.
PLATE		7	2-10742-58235		235
		SHEET No. 01		No. OF SHEETS 01	

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED
1			2			3			4			5			6		

3-10742-58231

DRAWING No.



SYMMETRICAL

10 ALLOWANCE

DEVELOPMENT OF PIPE

Ref. Drawing No. DSGPG-0127046
TIN No. PSK046L691
Sign & Date
Inventory No.

GRADE OF UNTOL.DIM
M/CG.- ϕ /M/F AA0230208
WELDING- ϕ /B/ ϕ / ϕ 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 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	—
	DINESH	-SD/-	19.07.2012	—
APPD	D.K.RAY	-SD/-	28.07.2012	73 74

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	MONIKA DINESH
						01	18.05.13		

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

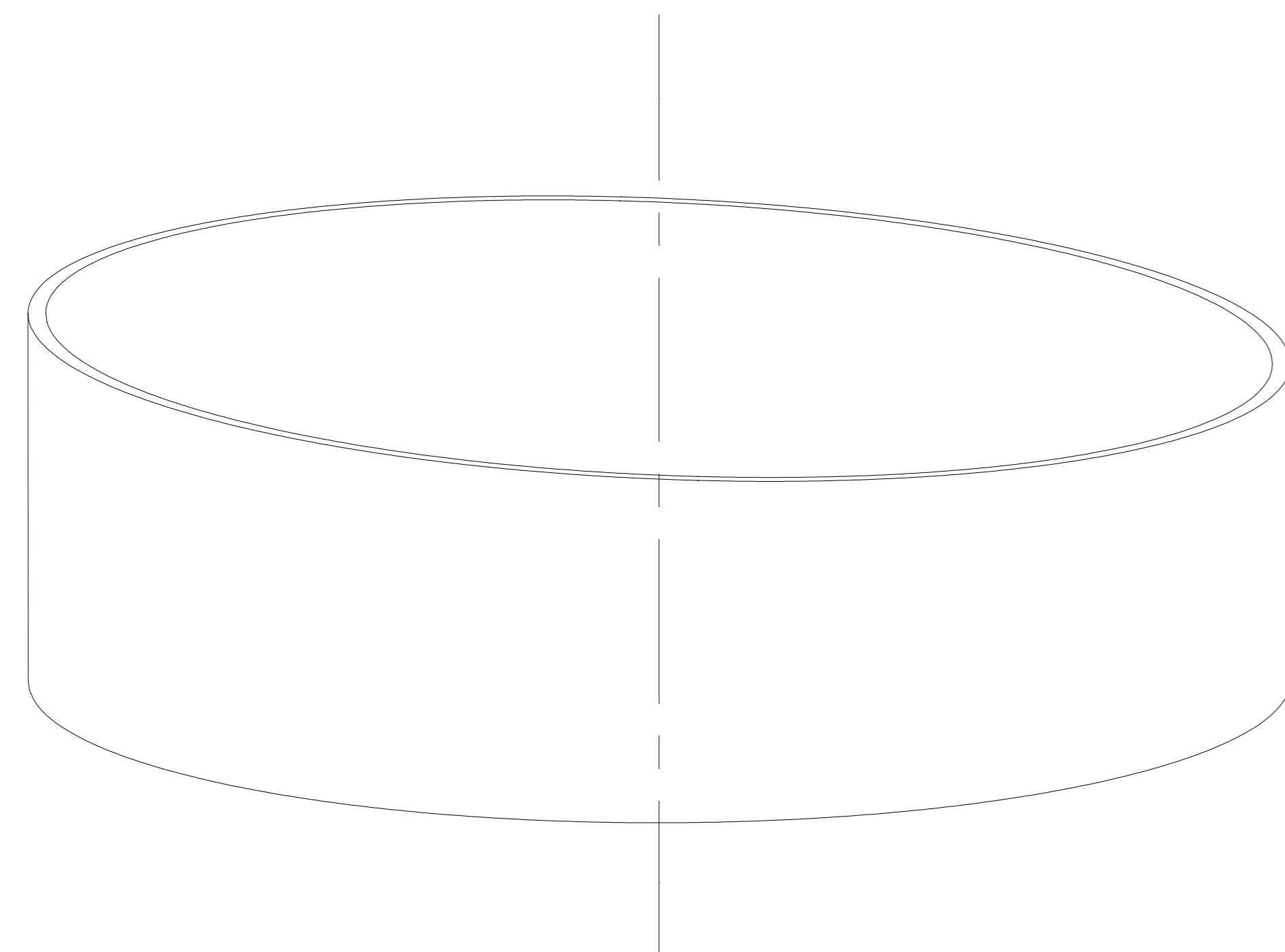
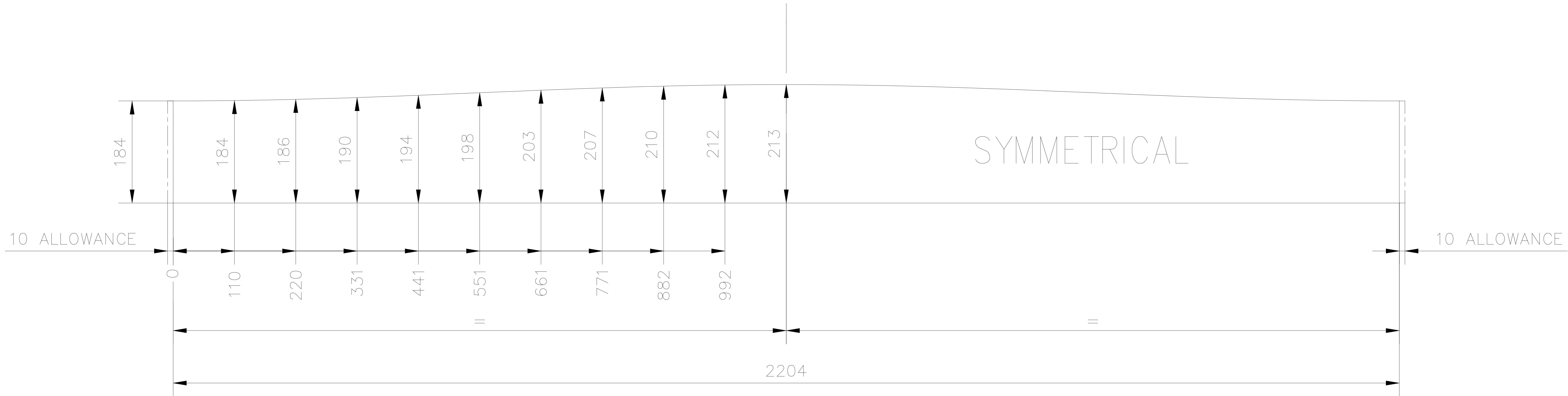
DATE UPDATED.
THIS DRG. SUPERSEDED THE OLD DRG. UNDER THE SAME NO.
AS PER C/A NO. STE-13-F0201.

TITLE : PIPE
CARD CODE 7
DRAWING NO. 3-10742-58231
SHEET No. 02 No. OF SHEETS 02

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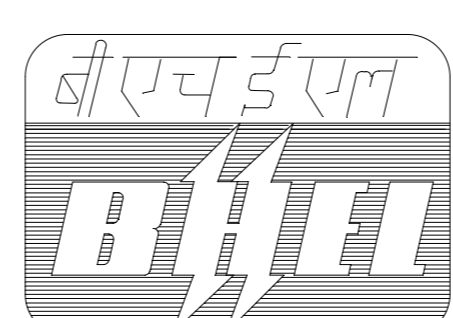
DRAWING No. 3-10742-58238



DEVELOPMENT OF PIPE

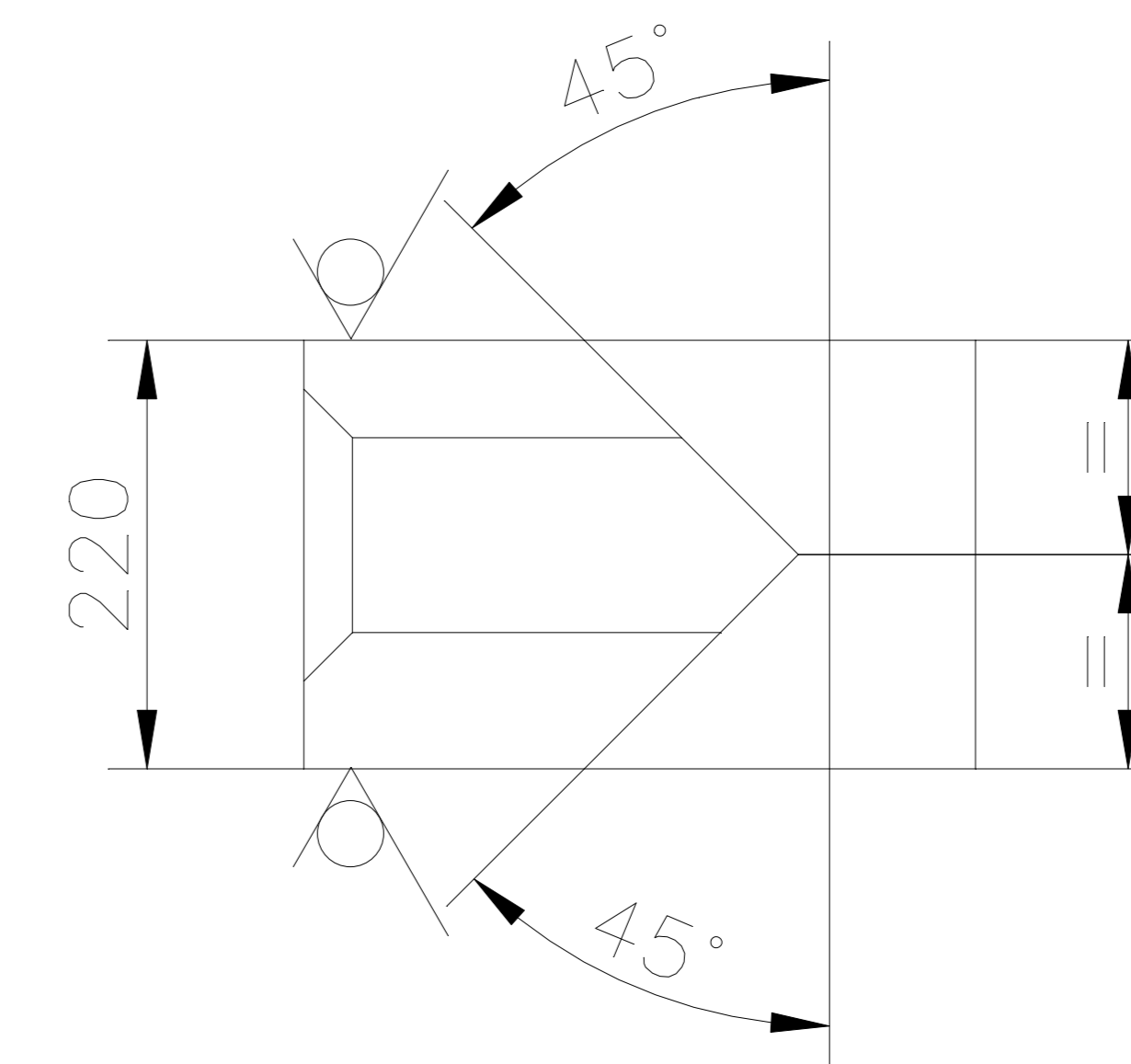
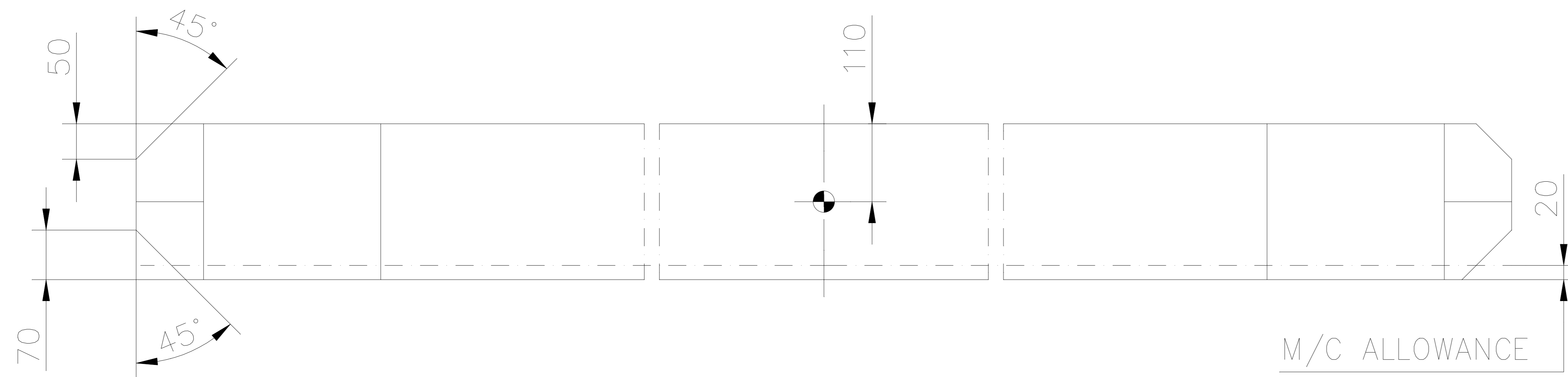
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Inventory No. Sign & Date Ref. Drawing No. TIN NO.

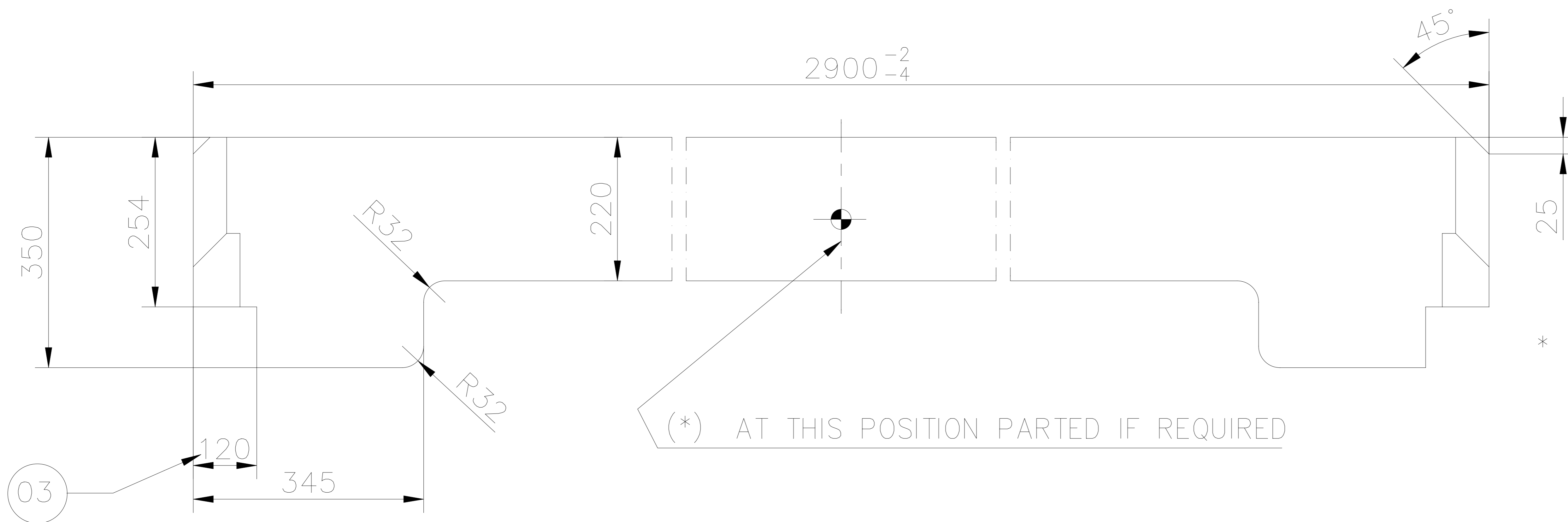
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS		
		CHECKED			CHECKED			CHECKED								4011	1:8
			02	18.05.13	MONIKA DINESH	01	05.4.13	MANOJ DINESH									
DATE UPDATED. THIS DRG. SUPERSEDED THE OLD DRG. UNDER THE SAME NO. AS PER C/A NO. STE-13-F0201.			CHANGES MADE AS PER CHANGE ADVICE. C/A NO. STE-12-F0504			TYPE OF PRODUCT STEAM TURBINE OR NAME OF CUSTOMER/PROJECT			 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN AFZAL KHAN -SD/- 18.07.2012 CHD DINESH -SD/- 19.07.2012 APPD D.K.RAY -SD/- 28.07.2012		NO. OF VAR — 73 74			
GMS No. / C B O M 9-10742-58000 STATUS OF DRG U										GRADE OF UNTOL.DIM M/CG.-Ø/M/F AA0230208 WELDING-Ø/B/Ø/Ø AA0621104 GAS CUTTING-'T3'AA0621101						DRAWING NO. 3-10742-58238 22 23 24	
												SHEET No. 02		No. OF SHEETS 02			

DRAWING No. 3-10742-58102

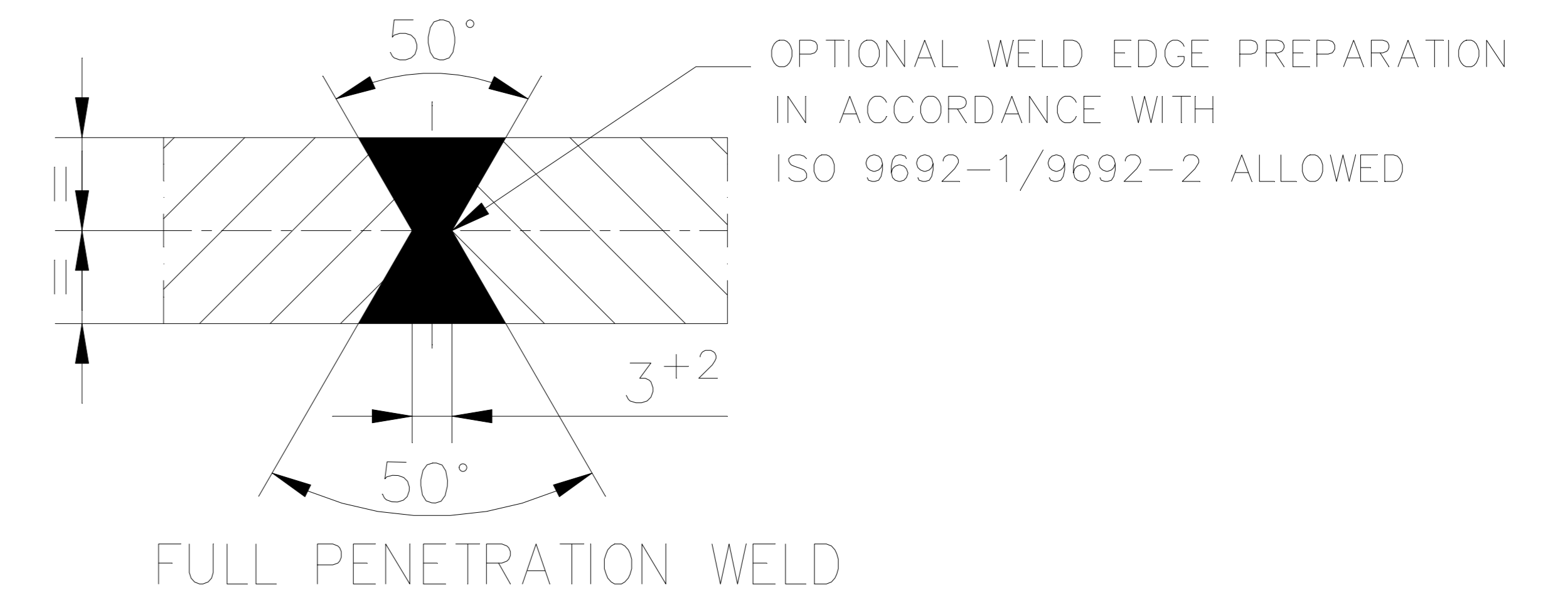
12.5/ ALL OVER EXCEPT OTHERWISE STATED



● 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: -

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

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

REV 03	DATE 21.09.17	ALTERED ANOOP	REV 02	DATE 31.12.16	ALTERED SD/- MANOJ	REV 01	DATE 23.7.15	ALTERED MANOJ
		CHECKED DINESH			CHECKED SD/- DINESH			CHECKED DINESH
TOP VIEW DIMENSION 270mm, DIMENSION 95mm DIMENSION 110mm TO DELETED & DIM.120 ADDED. AS PER C/A NO. STE-17-F0230.			DIM 345 CHANGED TO DIM 350MM DIM 215 CHANGED TO DIM 220MM C/A NO. STE-16-F0412			WEIGHT 1181KG SHOWN. C/A NO. STE-15-F0245		

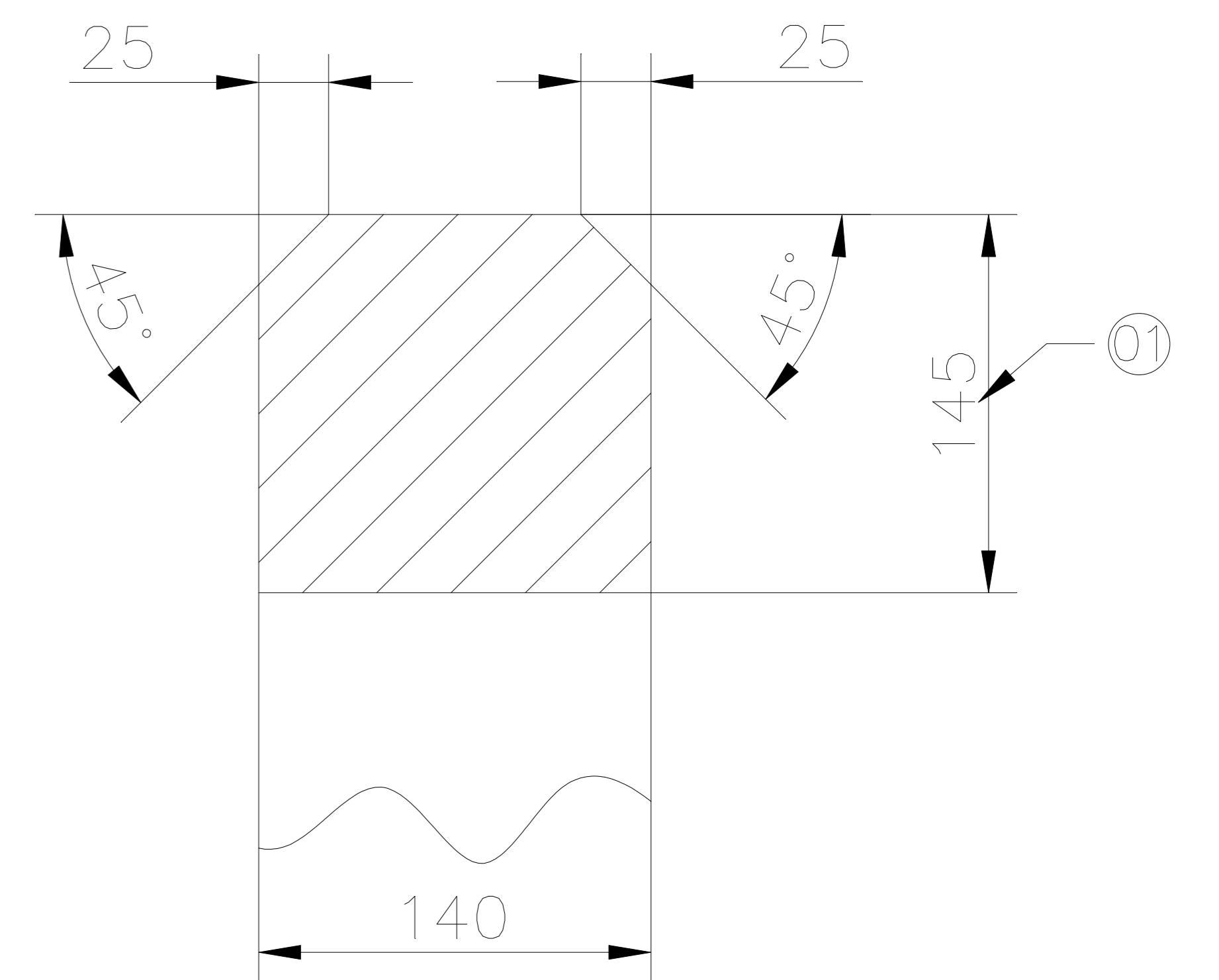
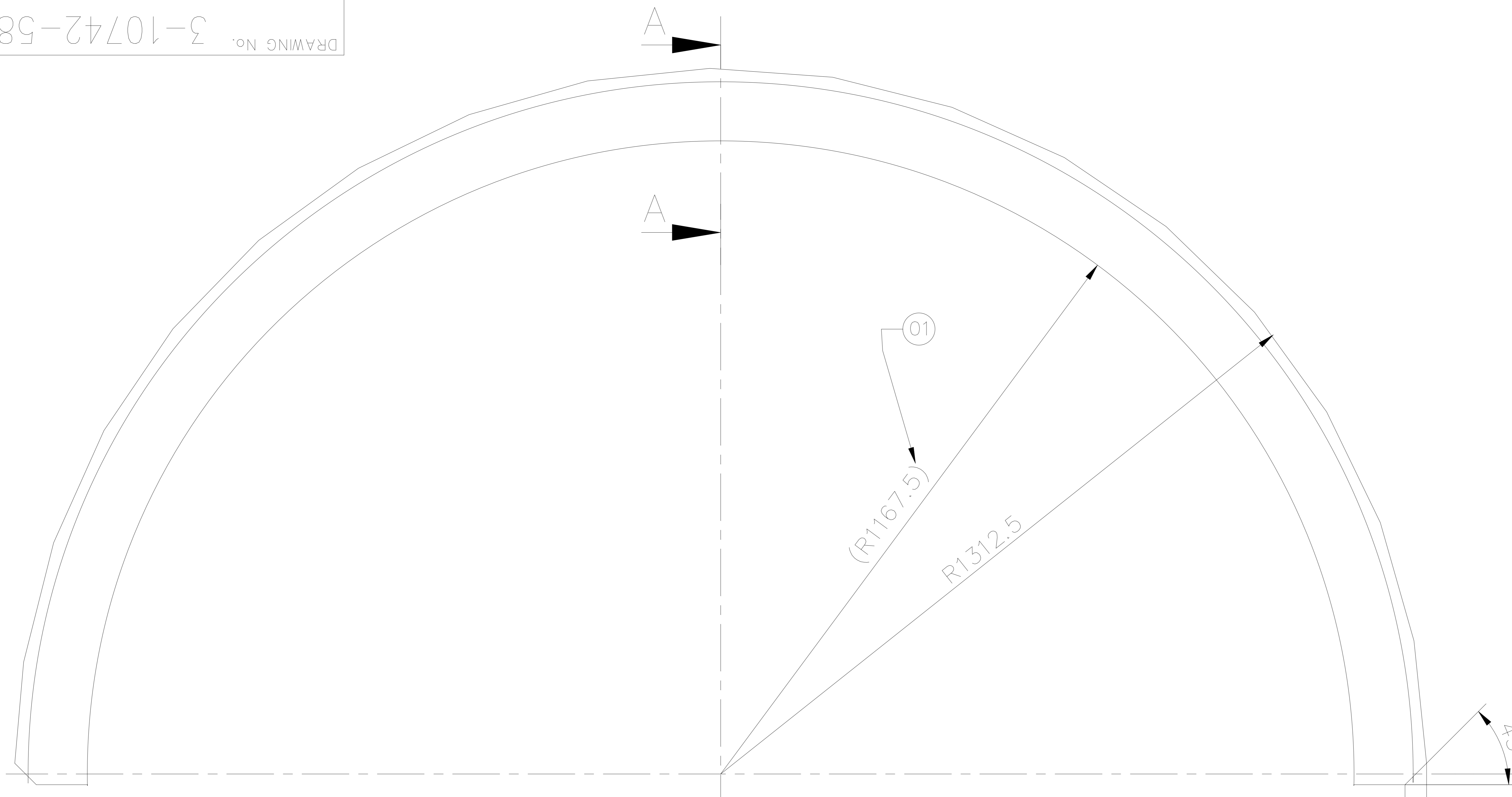
GMS No. / C B O M 0-10741-58500		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE	
AGREED DEPT WT	NAME H. VERMA	SIGN Sd/-	DATE 28.07.12	OR NAME OF CUSTOMER/PROJECT	
GRADE OF UNTOL. DIM M/CG.- AA0230208 m WELDING-CLASS 'B' OF AA0621104 GAS CUTTING-TABLE 3 OF AA0621101				BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR	
DRN	NAME POONAM	SIGN Sd/-	DATE 28.11.11	NO. OF VAR 00,01	
CHD	NAME DINESH	SIGN Sd/-	DATE 01.12.11	NO. OF VAR 73 74	
APPD	NAME D.K.RAY	SIGN Sd/-	DATE 29.07.12	NO. OF VAR 75 77	
DEPT	STE	SCALE 1:10	WEIGHT (KG) 1181	REF. TO ASSY. DRG. 0-10741-58500	
CODE	4011	TITLE : JOINT FLANGE		CARD CODE	DRAWING NO. 3-10742-58102
SHEET No. 1		No. OF SHEETS 1			

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DRAWING No. 3-10742-58105

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SECTION AA
SCALE 1:5



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: -

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

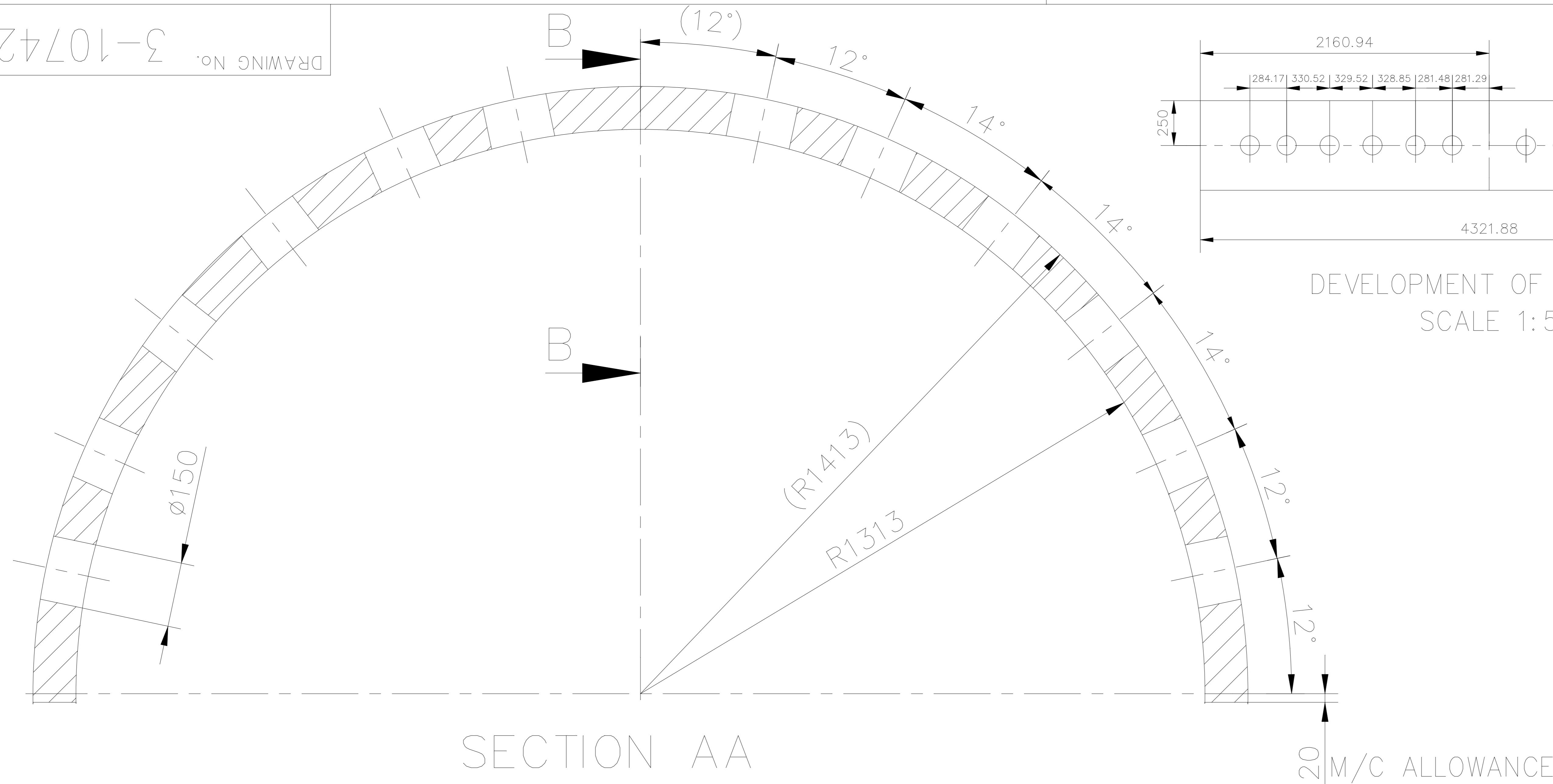
Inventory No. Sign & Date Ref. Drawing No. TIN No.

GMS No. / C B O M 9-10742-58000		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE	
AGREED DEPT WT		NAME H. VERMA		OR NAME OF CUSTOMER/PROJECT	
SIGN SD/-		DATE 28.07.12		Bharat Heavy Electricals Ltd. RANIPUR, HARDWAR	
GRADE OF UNTOL. DIM		DRN POONAM		NAME SD/-	
M/CG.- AA0230208 m		CHD DINESH		SIGN SD/-	
WELDING-CLASS 'B' OF AA0621104		APPD D.K.RAY		DATE 28.07.2012	
GAS CUTTING-TABLE 3 OF AA0621101		NO. OF VAR 73 74		NO. OF ITEMS 75 77	
REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED	01	17.01.14	ANOOB DINESH
IN MAIN VIEW RADIUS R1177.5 CHANGED TO R1167.5 & IN SECTION AA DIMENSION 135 CHANGED TO 145.			DEPT STE		
AS PER C\A NO. STE-14-F0024.			SCALE 1:10		
			WEIGHT (KG) 564.00		
			REF. TO ASSY. DRG. 9-10742-58000		
			ITEM No. 105 205		
			TITLE : HALF RING		
			CARD CODE 7		
			DRAWING NO. 3-10742-58105		
			SHEET No. 1 No. OF SHEETS 1		

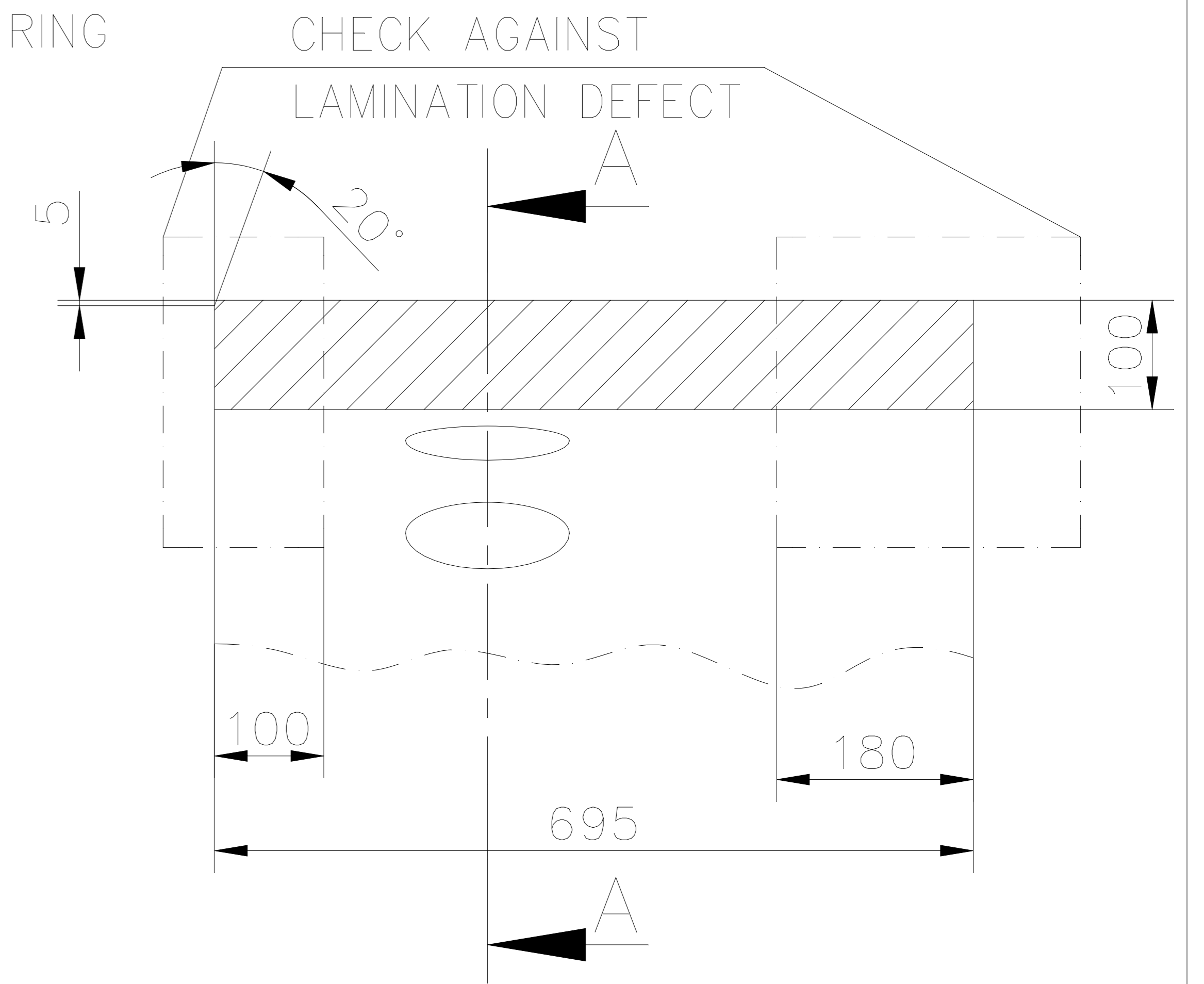
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DRAWING No. 3-10742-58108

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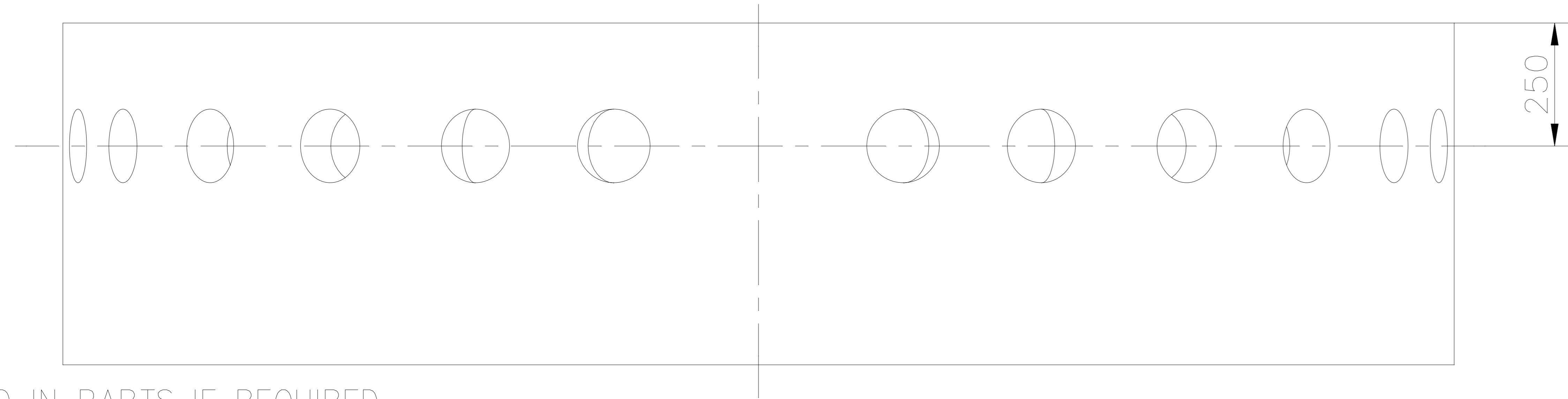


DEVELOPMENT OF HALF RING
SCALE 1:50

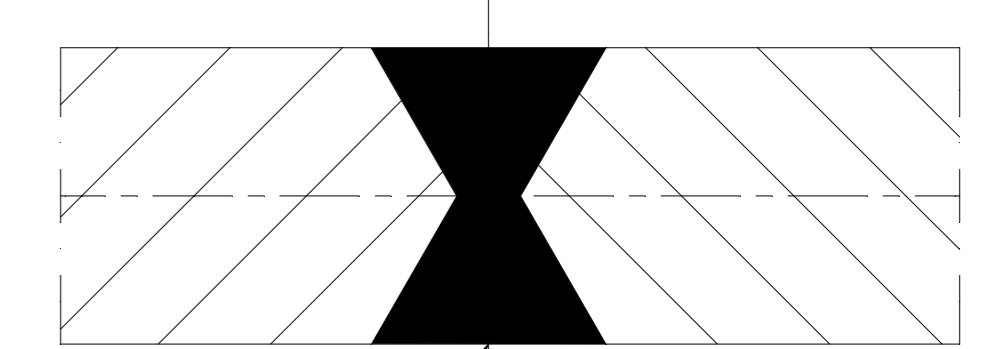
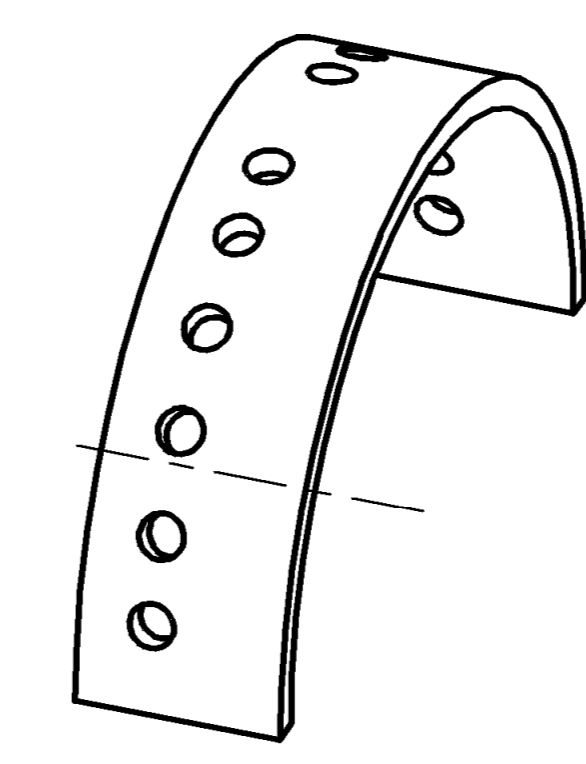


SECTION BB
SCALE 1:10

DETAIL: FULL PENETRATION WELD



1:40



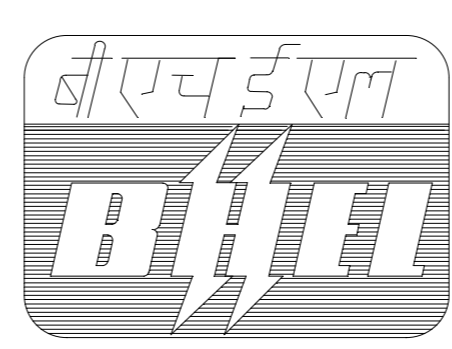
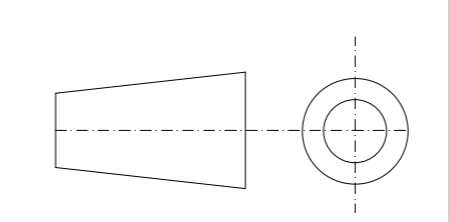
WELD EDGE PREPARATION
ACC. TO ISO 9692-1/ISO 9692-2

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: -

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

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

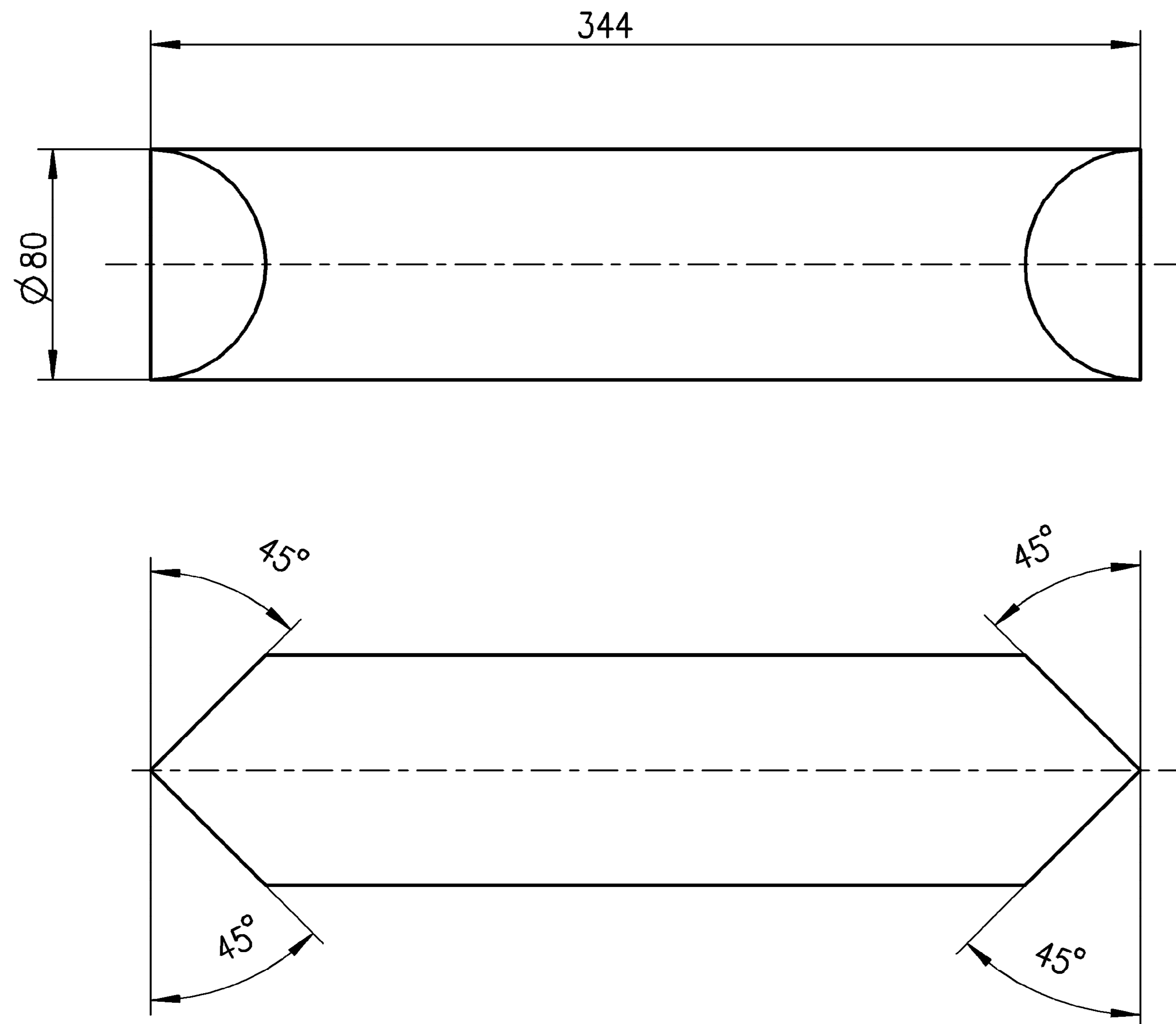
GMS No. / C B O M 9-10742-58000		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE	
AGREED DEPT WT	NAME H. VERMA	SIGN Sd/-	DATE 28.07.12	OR NAME OF CUSTOMER/PROJECT	
GRADE OF UNTOL. DIM M/CG.- AA0230208 m				 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR	
WELDING-CLASS 'B' OF AA0621104				DRN POONAM SD/- 28.11.2011 NO. OF VAR CHD DINESH SD/- 01.12.2011 APPD D.K.RAY SD/- 73 74	
GAS CUTTING-TABLE 3 OF AA0621101				DEPT STE CODE 4011  SCALE 1:15 WEIGHT (KG) 2190.00 REF. TO ASSY. DRG. 9-10742-58000 ITEM No. 108 208 NO. OF ITEMS 75 77	
REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED
TITLE : HALF RING			CARD CODE DRAWING NO. 3-10742-58108 SHEET No. 1 No. OF SHEETS 1		

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3-10742-58109
DRAWING No.

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TIN NO.
PSK0461655

Ref. Drawing No.
DSPPG-0127025

Sign & Date

Inventory No.

TECH.REQUIREMENT

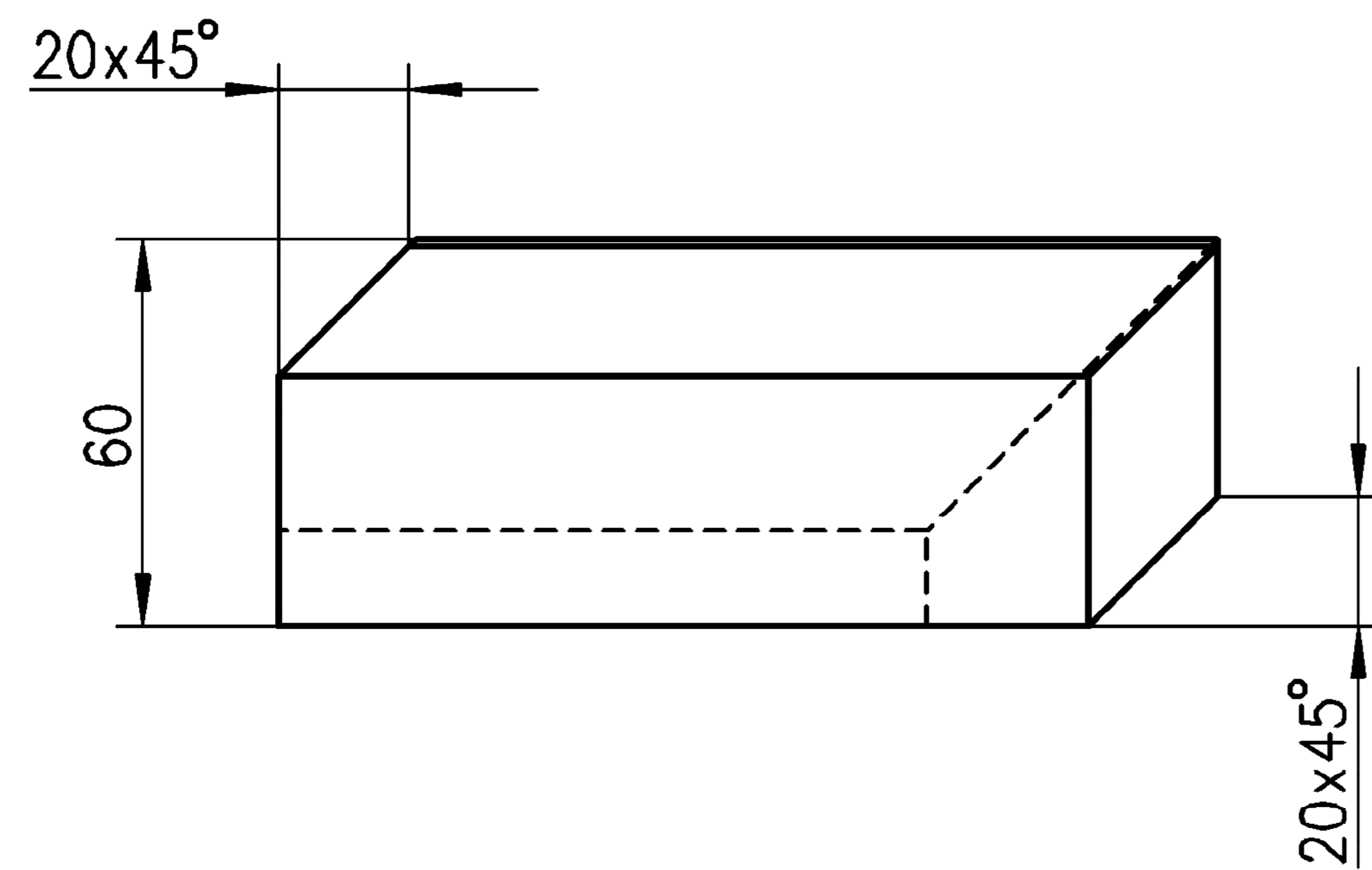
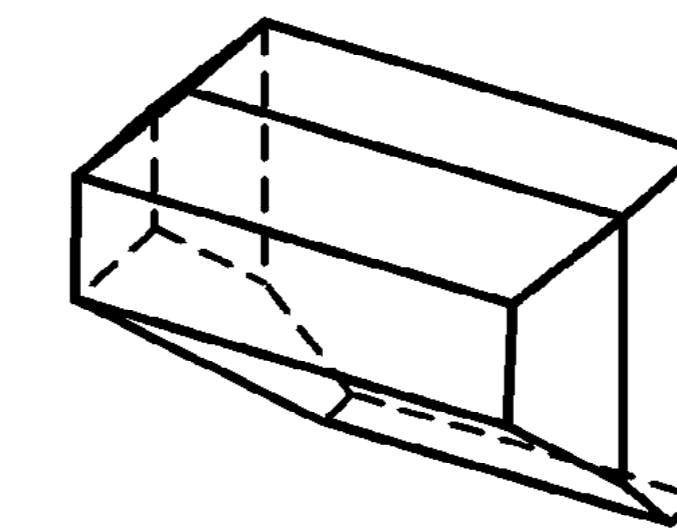
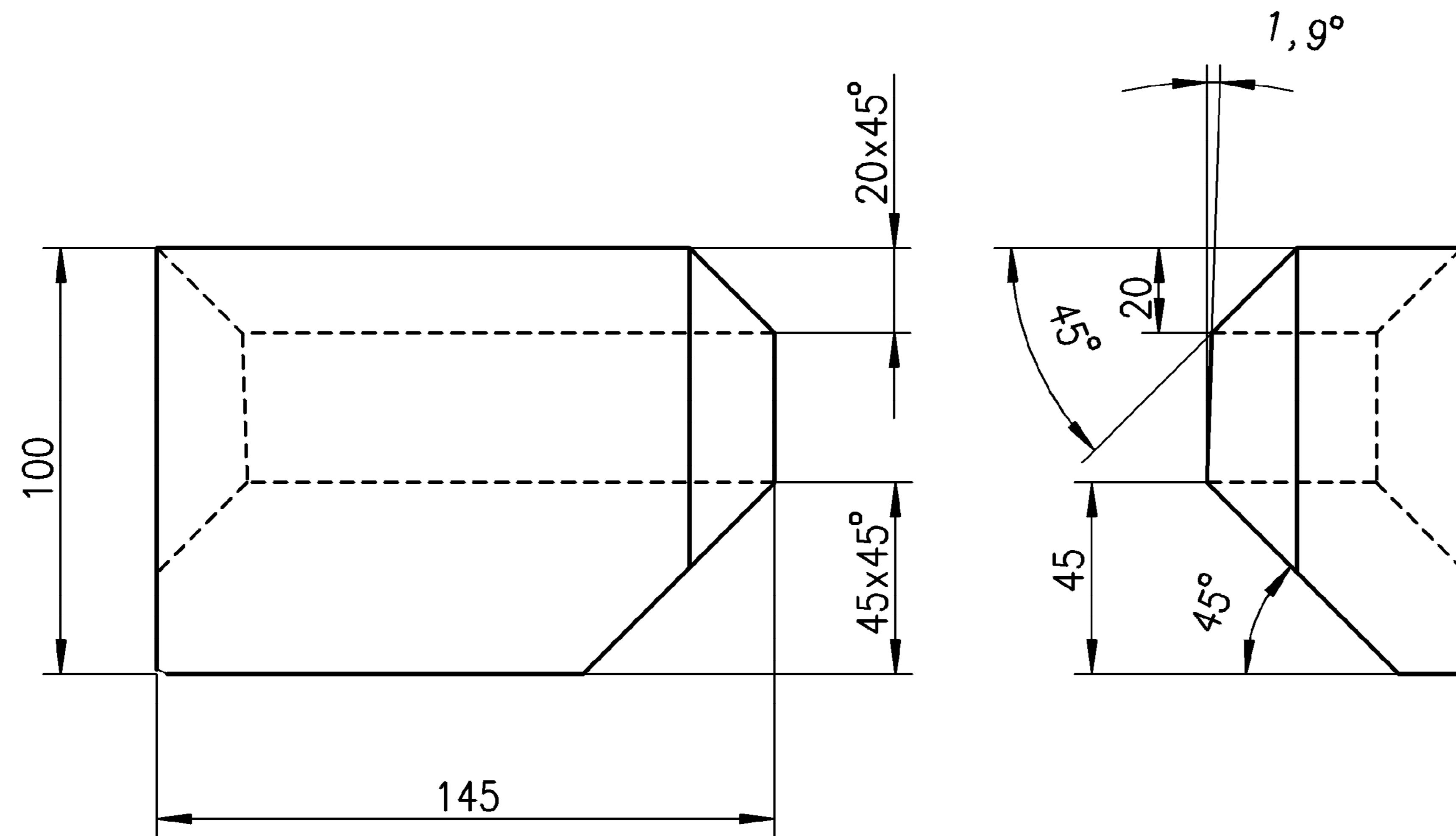
1. IDENTIFICATION ACCORDING TO HW 0400397.

GMS No./ C B O M 9-10742-58000		STATUS OF DRG		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE	
AGREED DEPT	NAME	SIGN	DATE	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			
WT	H. VERMA	SD/-	28.07.12	DRN	NAME	SIGN	DATE
GRADE OF UNTOL.DIM				CHD	POONAM	SD/-	28.11.2011
M/CG.-C/M/F AA0230208				APPD	DINESH	SD/-	01.12.2011
WELDING-A/B/C/D / / AA0621104				NO. OF VAR			
GAS CUTTING-T3'AA0621101				73 74			
REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE
		CHECKED			CHECKED		
DEPT		STE	SCALE		WEIGHT (KG)	REF. TO ASSY. DRG.	
CODE	4011		2.5		12.2	9-10742-58000	
TITLE :				CARD CODE		ITEM No.	
ANCHOR				7		109,209	
				DRAWING NO.		NO. OF ITEMS	
				3-10742-58109		75 77	
				SHEET No. 01		No. OF SHEETS 01	

3-10742-58110

DRAWING No.

50 / ALL OVER EXCEPT OTHERWISE STATED



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TIN NO. PSK046L656
Ref Drawing No> DSPPG-0127027
Sign & Date
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

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

DRN	NAME	SIGN	DATE	NO. OF VAR
	POONAM	SD/-	28.11.2011	
	DINESH	SD/-	01.12.2011	
	D.K.RAY	SD/-	29.07.2012	73 74

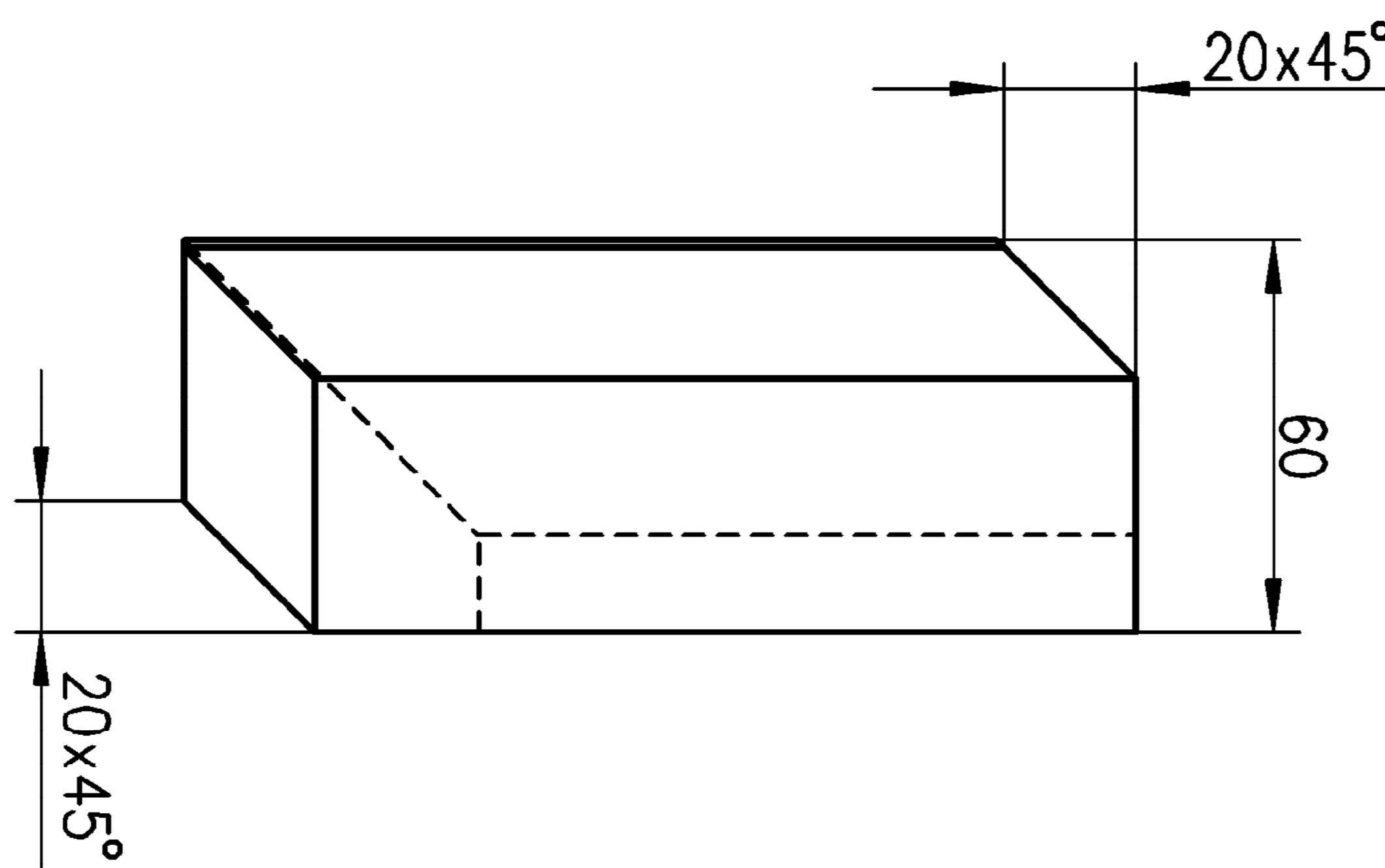
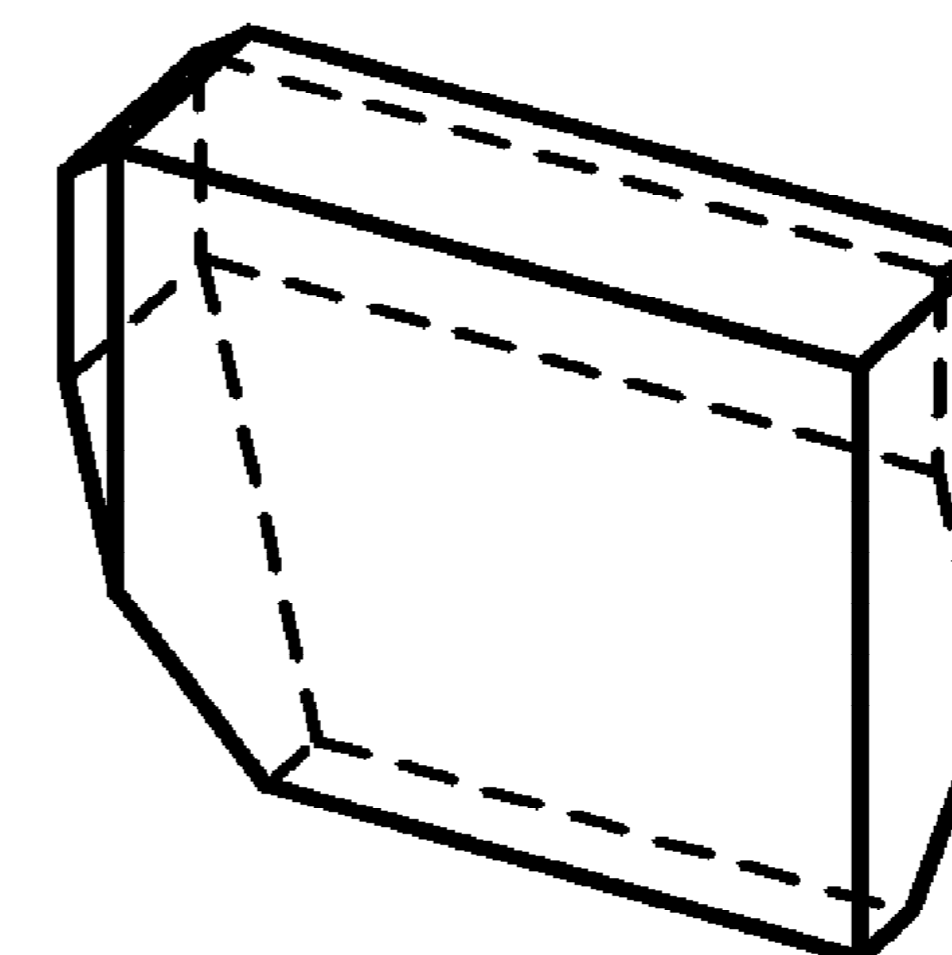
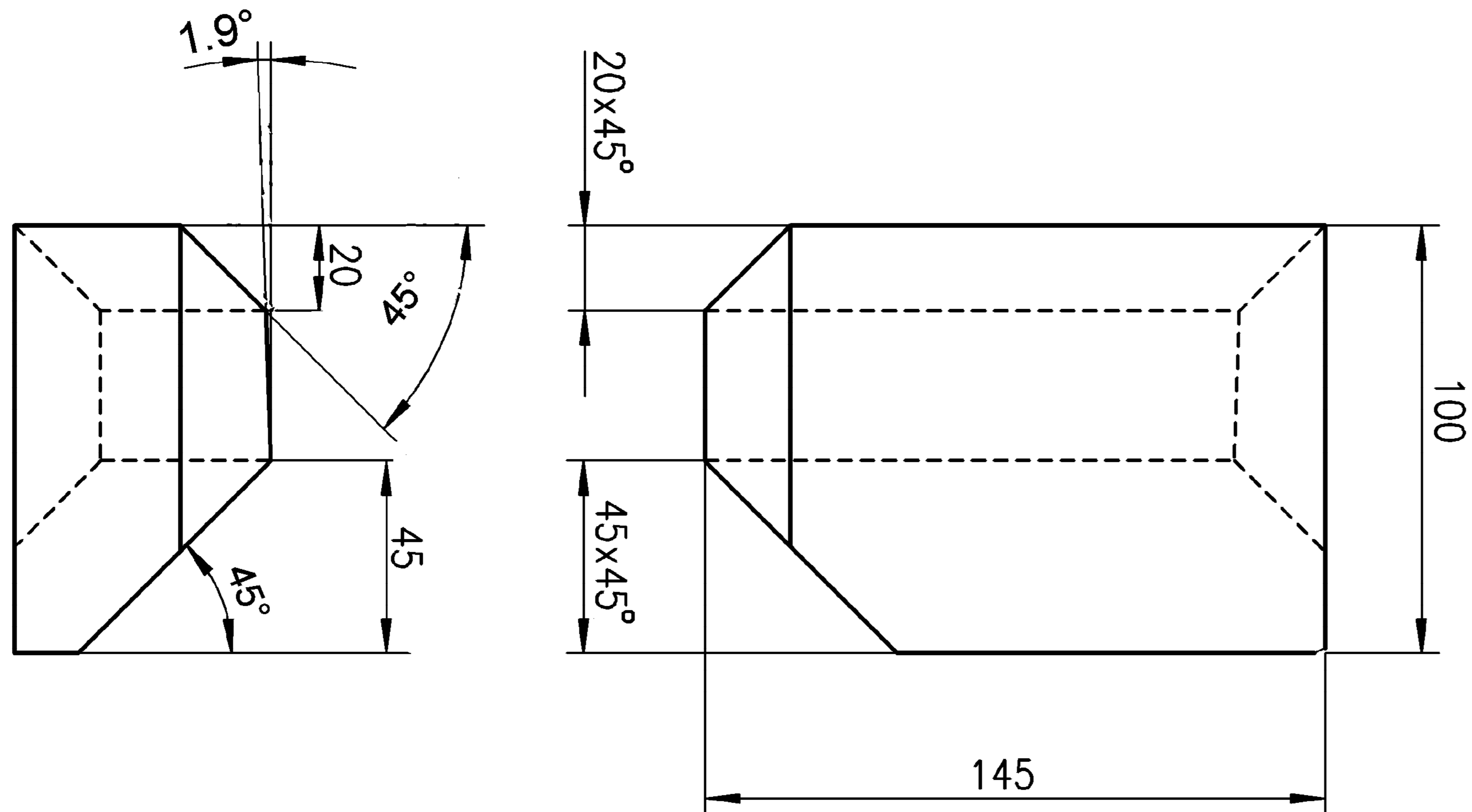
DEPT STE
CODE 4011
SCALE 1:5
WEIGHT (KG) 5.2
TITLE : **PLATE**

REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
9-10742-58000	110	75 77

DRAWING NO. **3-10742-58110**
CARD CODE 7
SHEET No. 01 No. OF SHEETS 01

3-10742-58111
DRAWING No.

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TECH.REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397.

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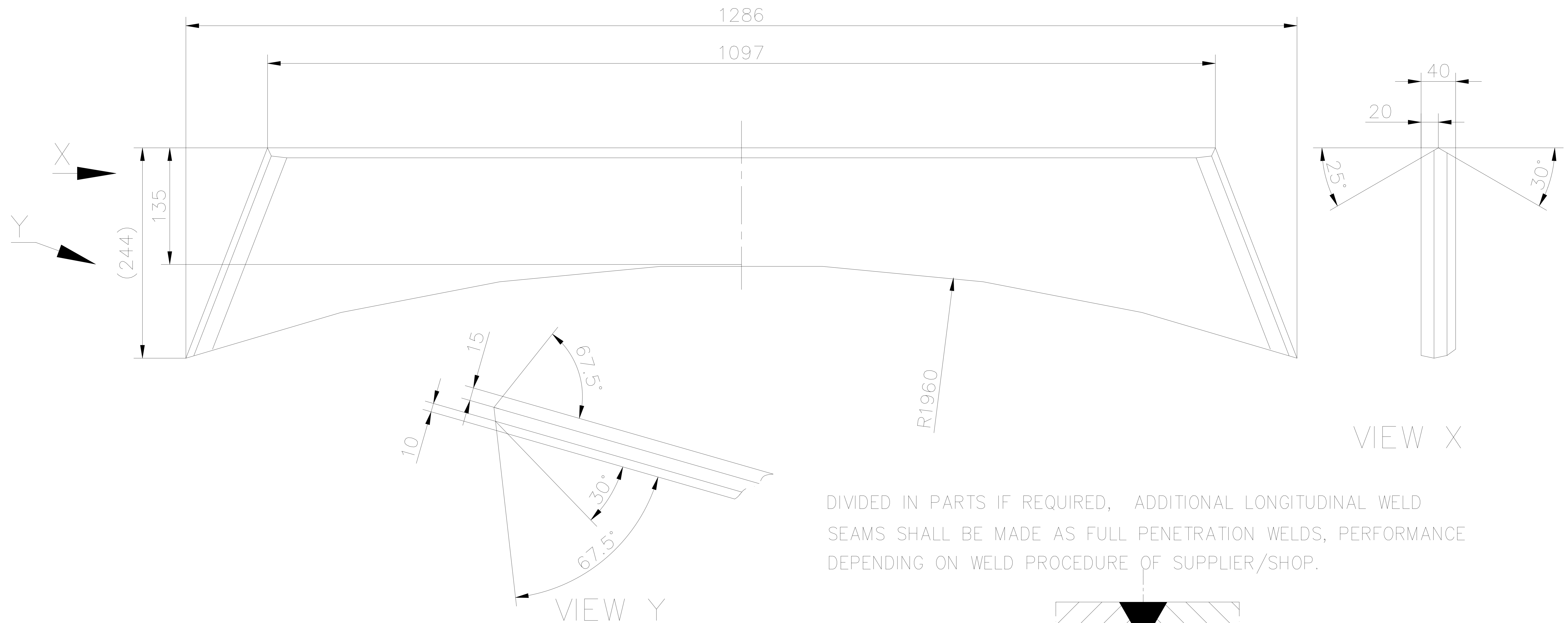
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TIN NO. PSK046L657
Ref Drawing No> DSPPG-0127027
Sign & Date
Inventory No.

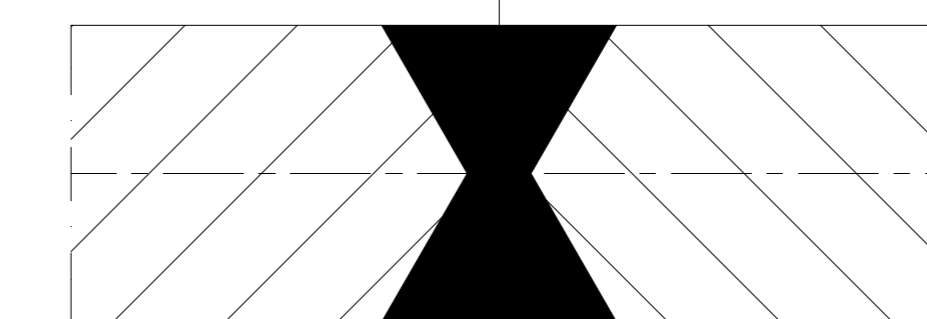
GMS No./ C B O M 9-10742-58000		STATUS OF DRG U		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE					
AGREED DEPT WT	NAME H. VERMA	SIGN SD/-	DATE 28.07.12	Bharat Heavy Electricals Ltd. RANIPUR, HARDWAR		DRN	NAME POONAM	SIGN SD/-	DATE 28.11.2011	NO. OF VAR	
GRADE OF UNTOL.DIM M/CG.-C/M/F AA0230208 WELDING-A/B/C/D / / AA0621104 GAS CUTTING-'T3'AA0621101				CHD	DINESH	SD/-	01.12.2011				
APPD	D.K.RAY	SD/-		DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.		ITEM No.	
REV	DATE	ALTERED	REV	DATE	ALTERED	1:5	4.9	9-10742-58000		111	
		CHECKED			CHECKED					75 77	
				TITLE : PLATE				CARD CODE	DRAWING NO. 3-10742-58111		
								7	22 23 24		
								SHEET No.01		No. OF SHEETS 01	

DRAWING No. 3-10742-58124

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.



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

TECHNICAL REQUIREMENTS: -

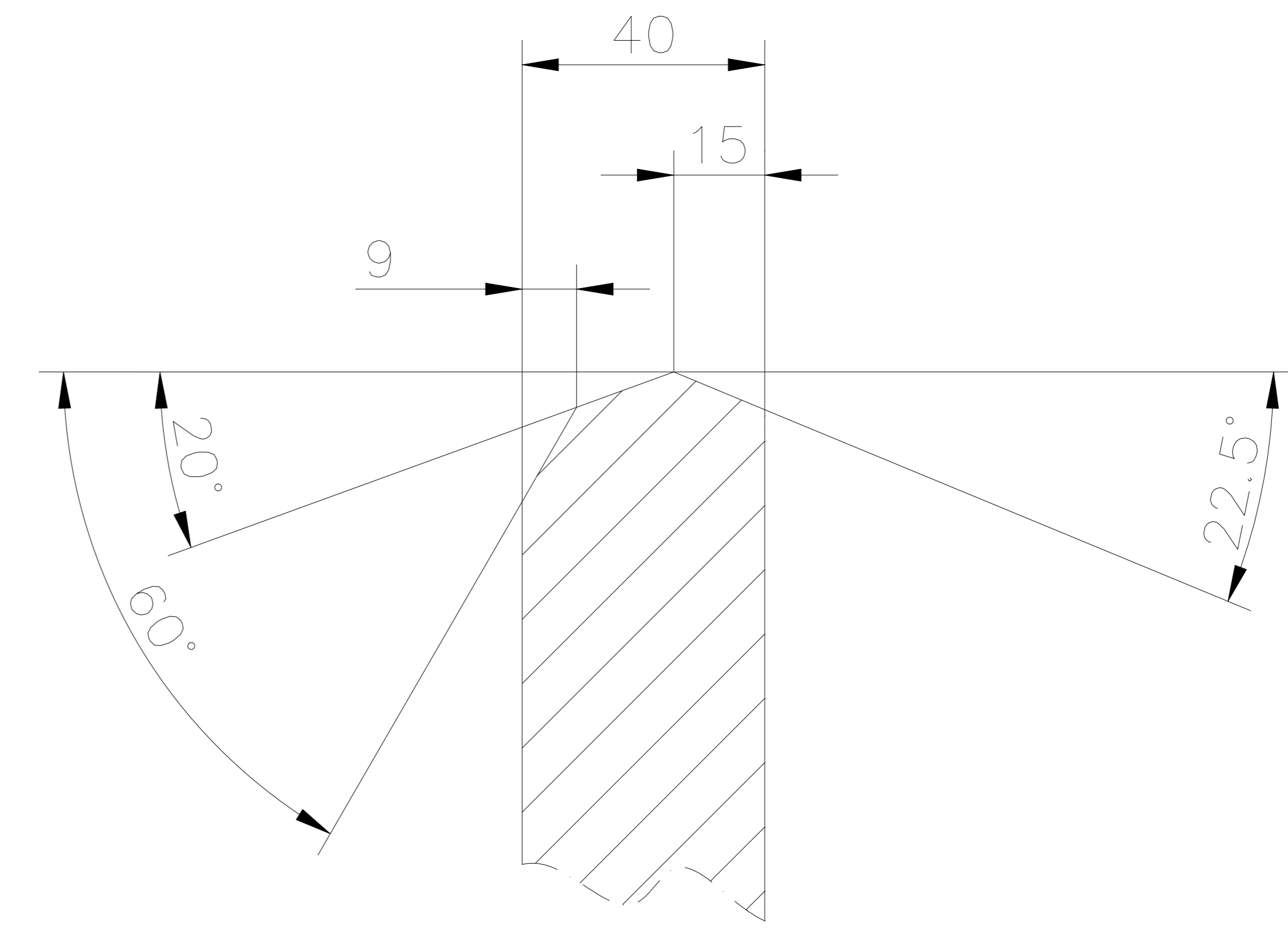
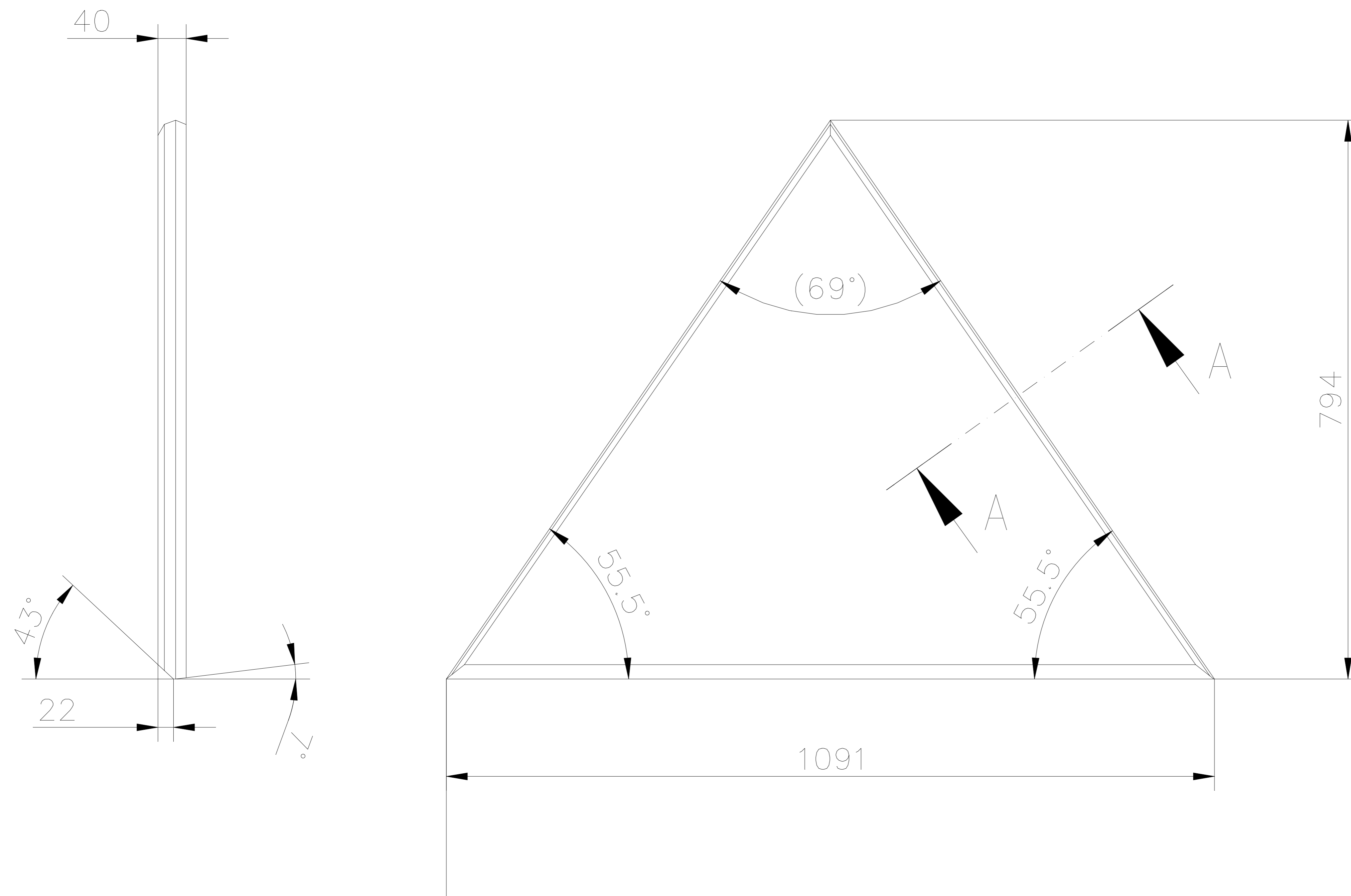
1. WELD CLASSIFICATION GROUP ACCORDING TO HW0620099:BS/BK.
2. WELDING TEST SCOPE ACCORDING TO HW0850199. CSR-1.
3. IDENTIFICATION ACCORDING TO HW0400397

Inventory No.	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	MONIKA DINESH	DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS	CARD CODE	DRAWING NO. 3-10742-58124	SHEET No. 1	No. OF SHEETS 1									
																						AS PER C/A NO. STE-13-F0028	TITLE : PLATE	7	22	23	24			
Sign & Date	Ref. Drawing No. DSPPG-0127044	TIN NO. PSK0461662	GRADE OF UNTOL. DIM		AGREED DEPT		NAME		SIGN		DATE		TYPE OF PRODUCT		STEAM TURBINE		OR		NAME OF CUSTOMER/PROJECT		DRN		NAME		SIGN		DATE		NO. OF VAR	
			M/CG.- AA0230208 m	WT	H. VERMA	Sd/-	28.07.12	BHARAT HEAVY ELECTRICALS LTD.	RANIPUR, HARDWAR	D.K.RAY	Sd/-	73	74	POONAM	Sd/-	28.11.11	75	77	DINESH	Sd/-	01.12.11									
			WELDING-CLASS 'B' OF AA0621104																											
			GAS CUTTING-TABLE 3 OF AA0621101																											

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DRAWING No. 3-10742-58125

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SECTION AA
SCALE 1:2

TECHNICAL REQUIREMENT:-

- IDENTIFICATION ACCORDING TO HW 0400397.

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

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.- AA0230208 m				
WELDING-CLASS 'B' OF AA0621104				
GAS CUTTING-TABLE 3 OF AA0621101				
REV	DATE	ALTERED	REV	DATE
		CHECKED		

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

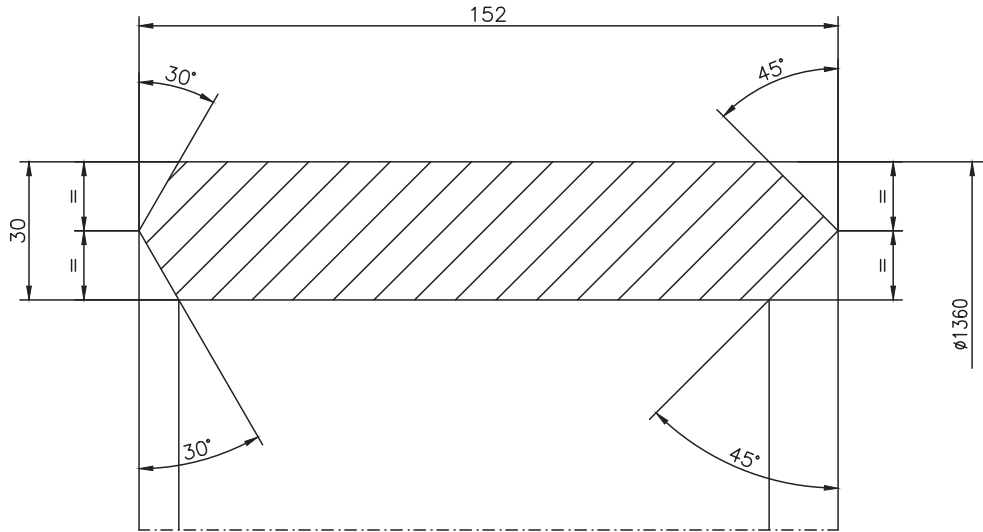
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

DRAWING No. 3-10742-58151

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.

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

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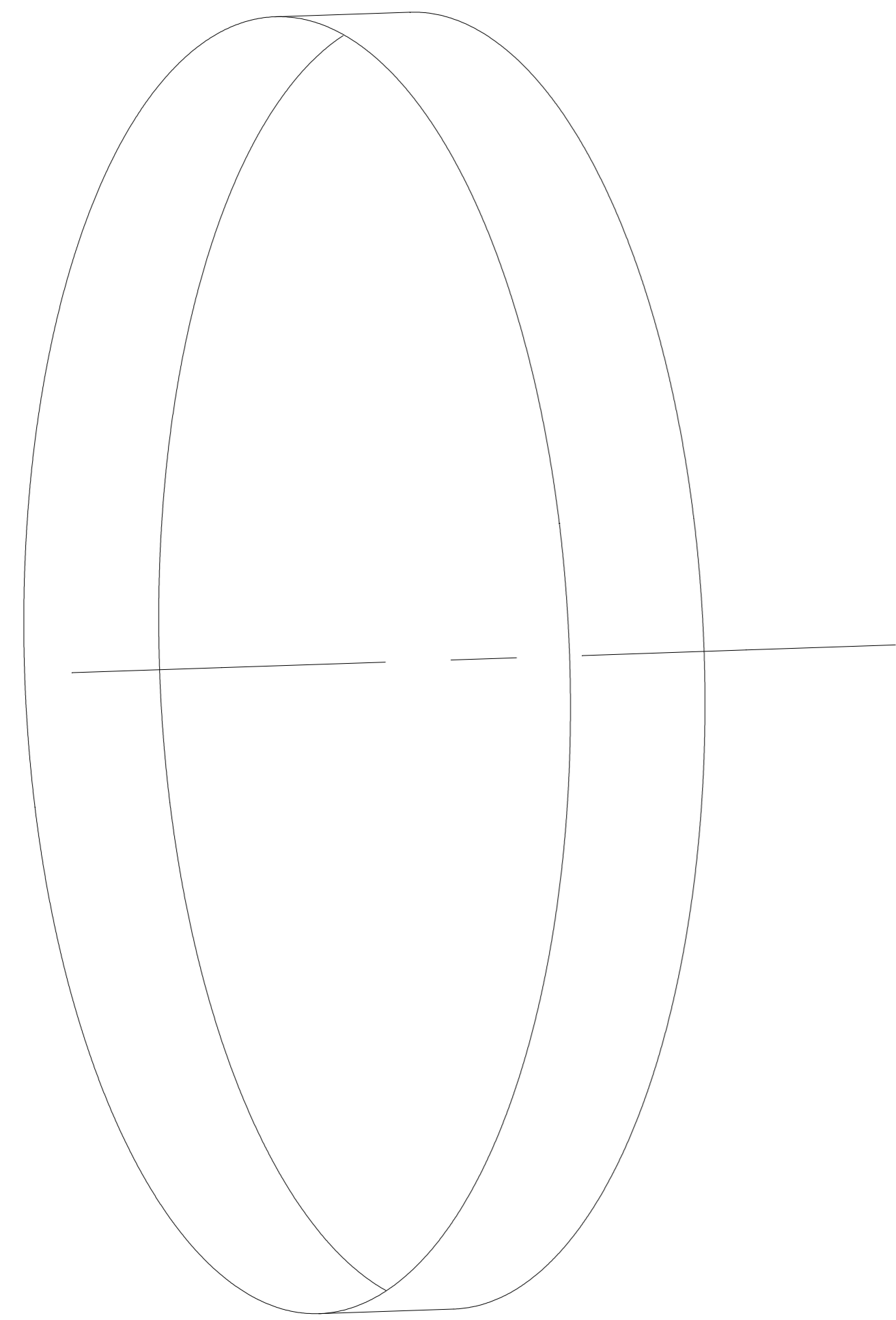
Inventory No. Sign & Date Ref. Drawing No. PSK0461667 DSPPC-0127059 TIN NO.

GMS No. / C B O M 9-10742-58000		STATUS OF DRG		TYPE OF PRODUCT STEAM TURBINE	
AGREED DEPT		NAME		OR	
WT		H. VERMA		NAME OF CUSTOMER/PROJECT	
SIGN		Sd/-		DATE	
				28.07.12	
GRADE OF UNTOL. DIM				DRN	
M/CG.- AA0230208 m				NAME	
WELDING-CLASS 'B' OF AA0621104				SIGN	
GAS CUTTING-TABLE 3 OF AA0621101				DATE	
				POONAM Sd/- 29.11.11	
				CHD	
				DINESH Sd/- 01.12.11	
				APPD	
				D.K.RAY Sd/-	
REV		DATE		DEPT STE	
ALTERED		ALTERED		SCALE	
CHECKED		CHECKED		1:1	
REV		DATE		WEIGHT (KG)	
ALTERED		ALTERED		148.00	
CHECKED		CHECKED		REF. TO ASSY. DRG.	
				9-10742-58000	
				ITEM No. 151	
				NO. OF ITEMS 75 77	
TITLE : PIPE				DRAWING NO.	
				3-10742-58151	
				CARD CODE	
				7	
SHEET No. 1		No. OF SHEETS 2			

SIZE A3

3-10742-58151

DRAWING No.



DEVELOPMENT OF PIPE

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Ref. Drawing No. DSPPG-127059
TIN No. PSK046L667

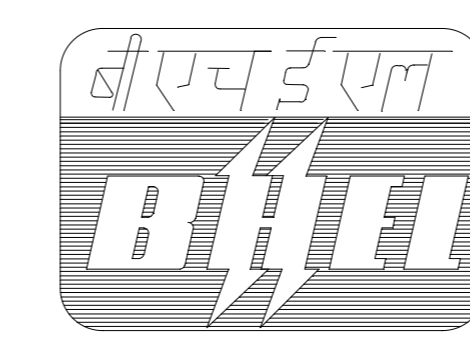
Sign & Date

Inventory No.

GRADE OF UNTOL.DIM
M/CG.-Ø/M/F AA0230208
WELDING-~~A~~/B/Ø/Ø 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 STEAM TURBINE
OR
NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

	NAME	SIGN	DATE	NO. OF VAR
DRN	AFZAL KHAN	-SD/-	02.08.2012	—
CHD	DINESH	-SD/-	03.08.2012	—
APPD	D.K.RAY	-SD/-		73 74

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

DEPT STE	SCALE 1:12	WEIGHT (KG) 148.0	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 231	NO. OF ITEMS 75 77
----------	------------	-------------------	----------------------------------	--------------	--------------------

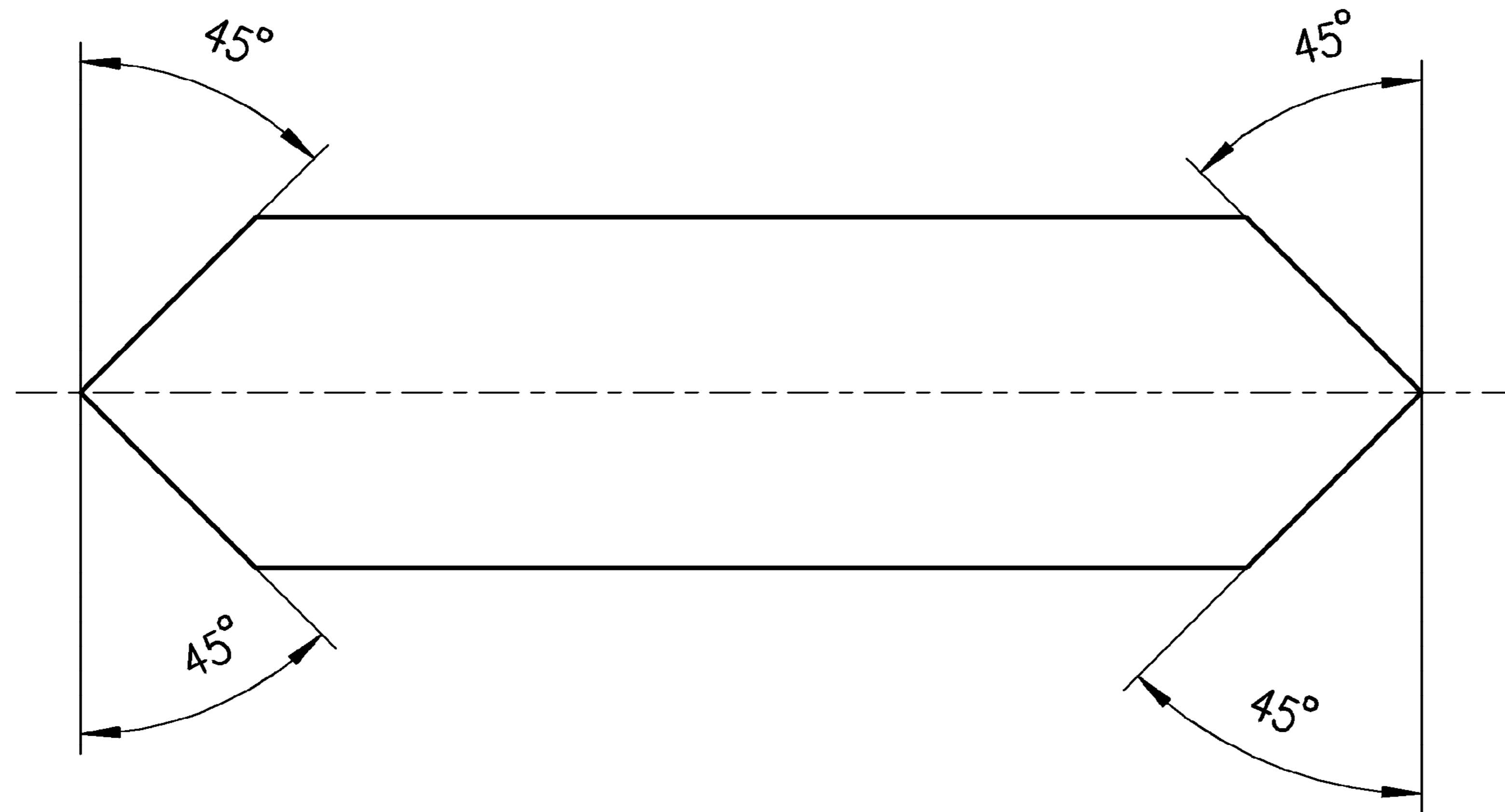
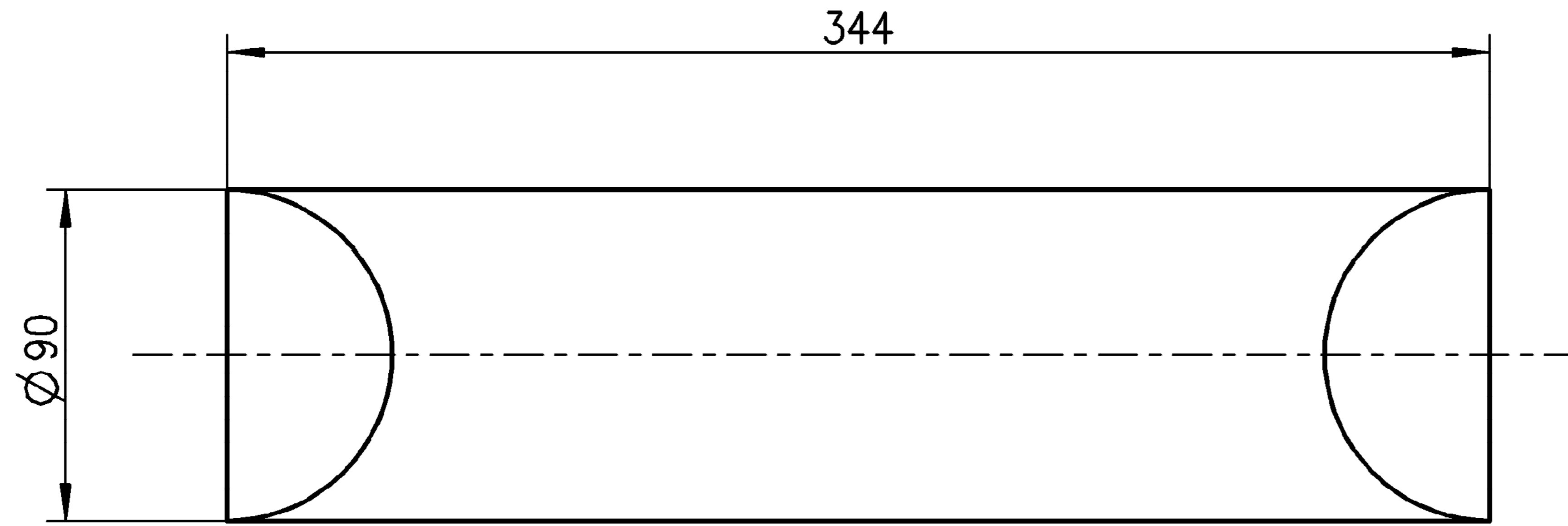
TITLE : PIPE	CARD CODE 7	DRAWING NO. 3-10742-58151	22 23 24
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SHEET No. 02 No. OF SHEETS 02

SIZE A3

3-10742-58156 DRAWING No.

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TECH.REQUIREMENT:-

1. IDENTIFICATION ACCORDING TO HW 0400397.

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TIN NO.
PSK046L668

Ref.Drawing No>
DSPPG-0127061

Sign & Date

Inventory No.

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

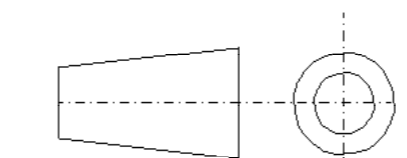
GMS No./ C B O M 9-10742-58000			STATUS OF DRG U
AGREED DEPT	NAME	SIGN	DATE
WT	H. VERMA	SD/-	28.07.12

TYPE OF PRODUCT OR
STEAM TURBINE
NAME OF CUSTOMER/PROJECT

 **BHARAT HEAVY ELECTRICALS LTD.**
RANIPUR, HARDWAR

	NAME	SIGN	DATE	NO. OF VAR
DRN	POONAM	SD/-	28.11.2011	
CHD	DINESH	SD/-	01.12.2011	
APPD	D.K.RAY	SD/-		73 74

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

DEPT	STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011		2:5	15.3	9-10742-58000	156 256	75 77

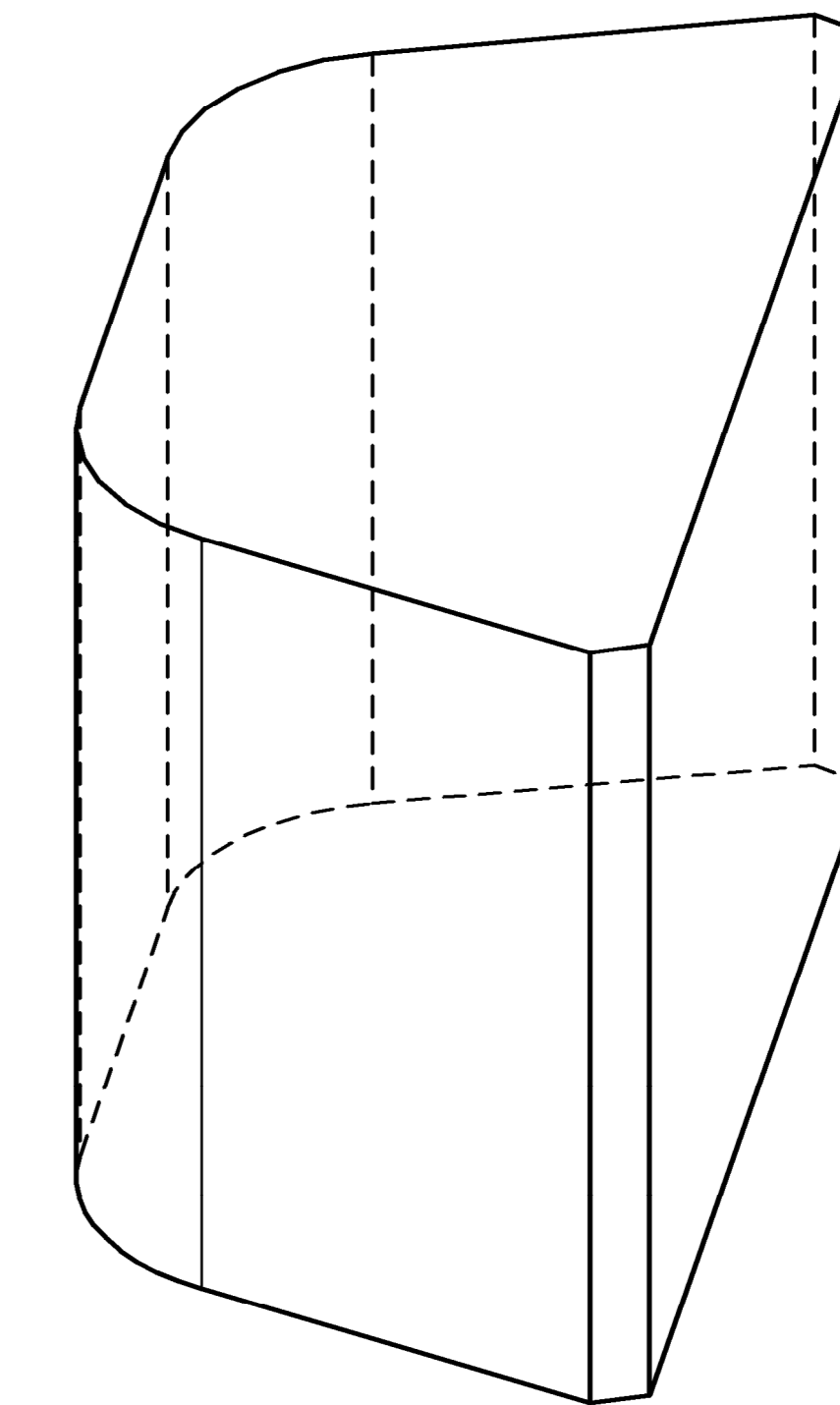
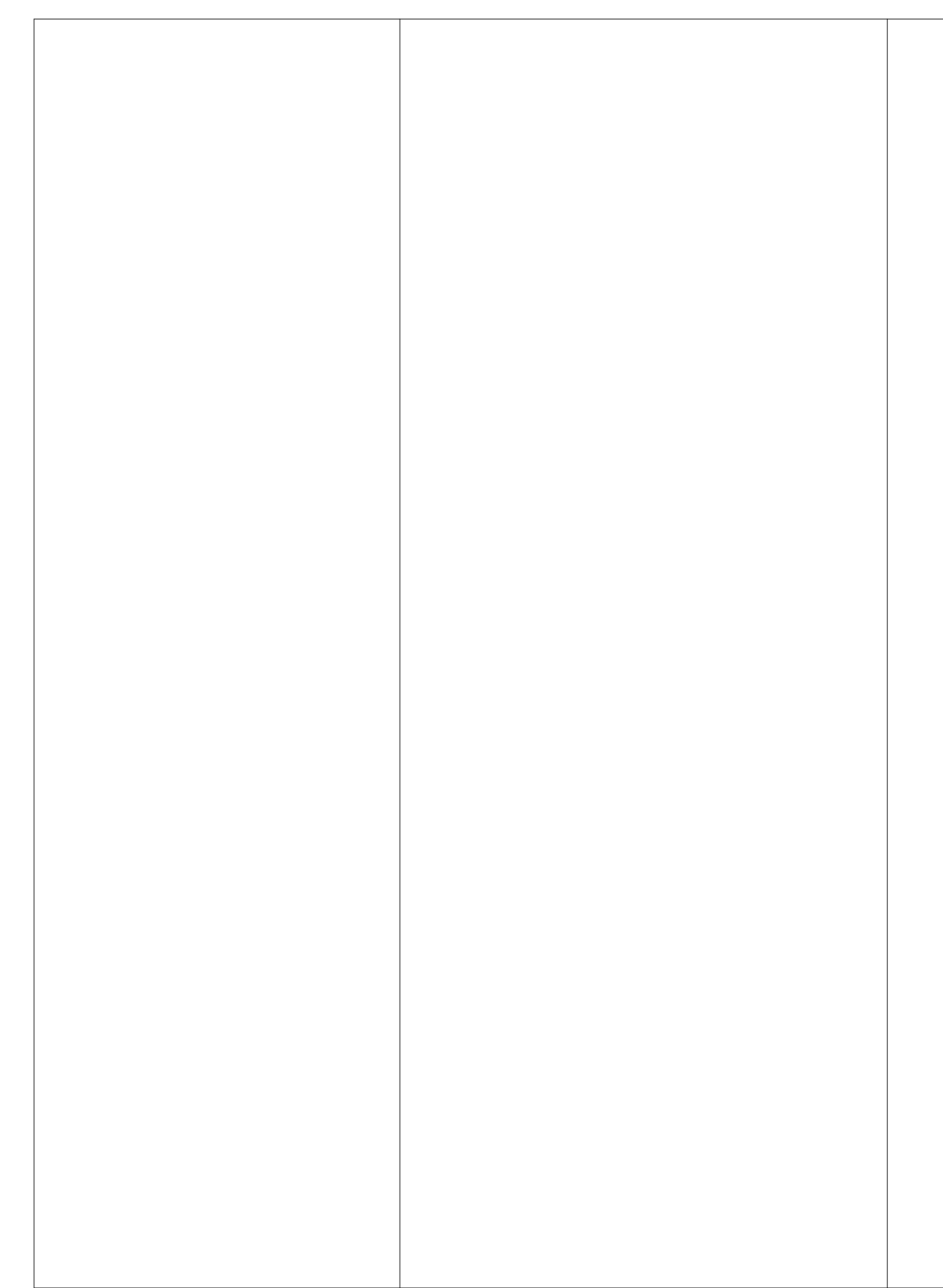
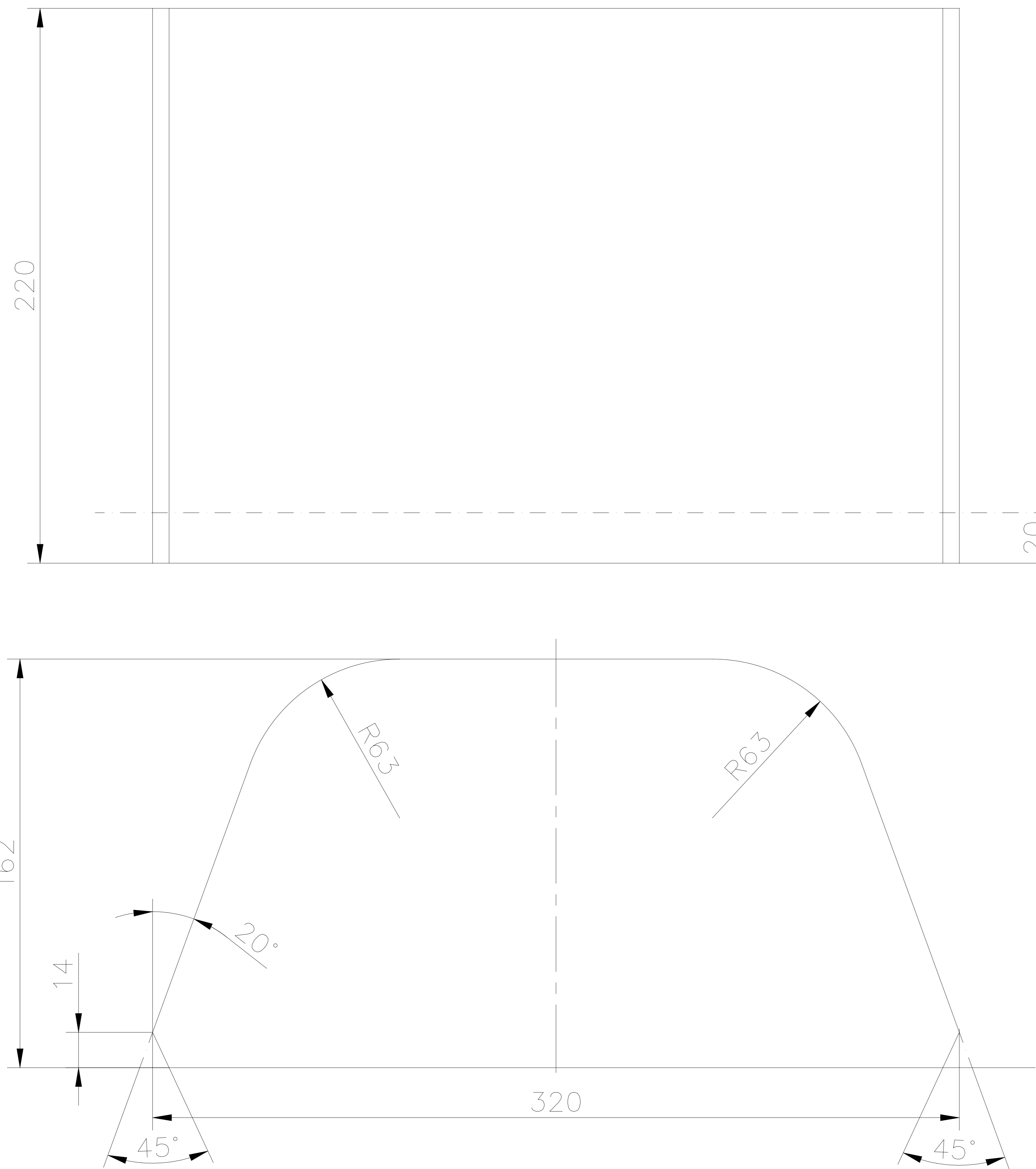
TITLE :	ANCHOR	CARD CODE	DRAWING NO. 3-10742-58156
		7	22 23 24
		SHEET No. 01	No. OF SHEETS 01

DRAWING No. 3-10742-58157

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M/C ALLOWANCE

TECHNICAL REQUIREMENT

- IDENTIFICATION ACCORDING TO HW 0400397

TIN NO
PSK046L669

Ref. Drawing No.
DSPPG-0127062

Sign & Date

Inventory No.

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

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

TYPE OF PRODUCT STEAM TURBINE
OR
NAME OF CUSTOMER/PROJECT

 BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	DINESH	Sd/-	01.11.11	
APPD	D.K RAY	Sd/-		

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
CODE 4011					

T.R-2 & MACHNINIG 12.5 DELETED.
C\A NO. STE-15-F0034.

AS PER
C\A NO. STE-13-F0028

TITLE :
JOINT FLANGE

CARD CODE
DRAWING NO. 3-10742-58157
SHEET No. 1 No. OF SHEETS 1

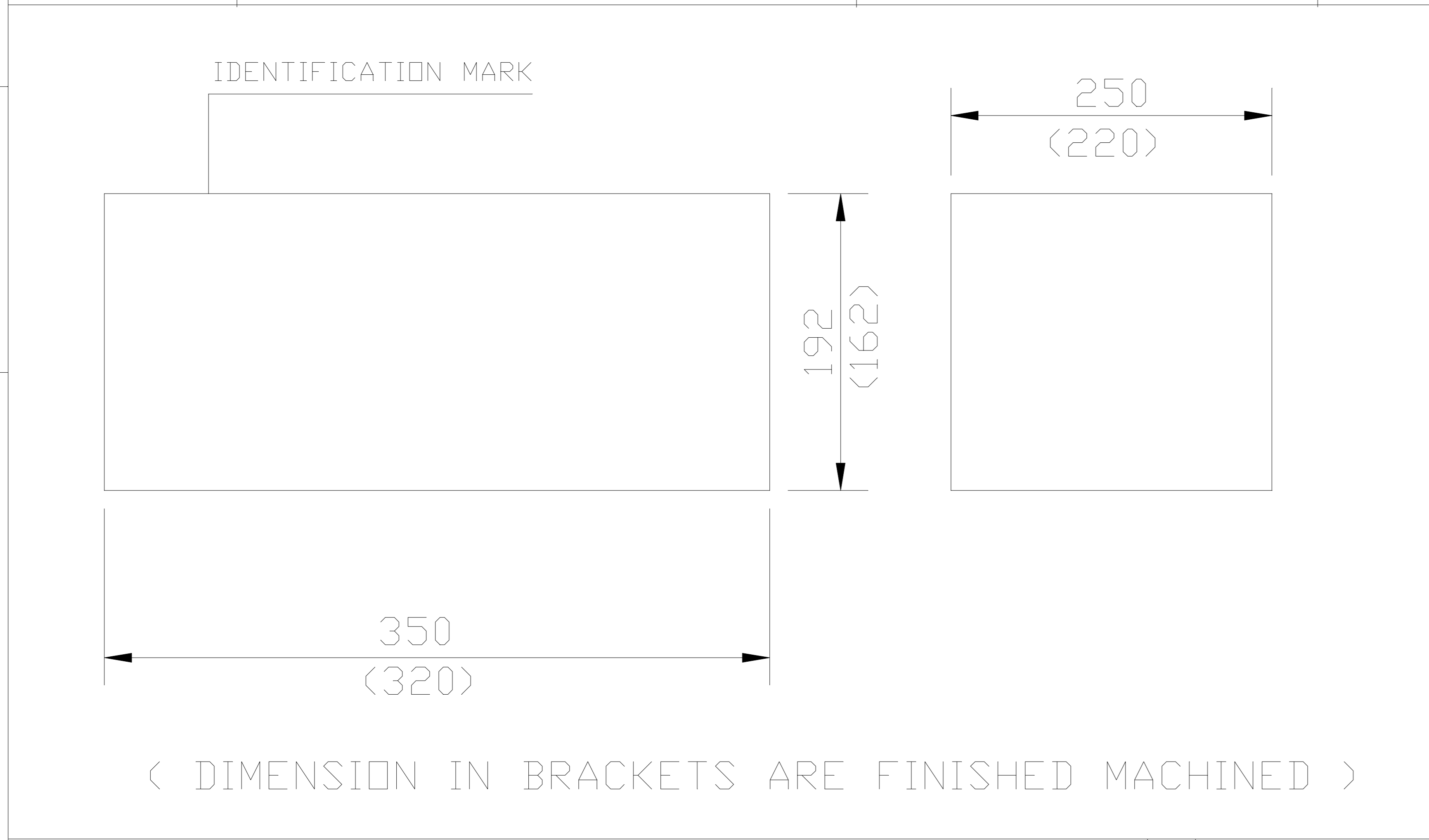
SUPERSEDES INVENTORY NO. SIGN. & DATE



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	

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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	
REQUIREMENT	LENGTH	316 MM	DISCARDS.	0	0		
	TECH. SPECIAL		SCALE.	10	10		
			CROPPING	-	-		
		AA19341	TOTAL IN KG.	145	100%		

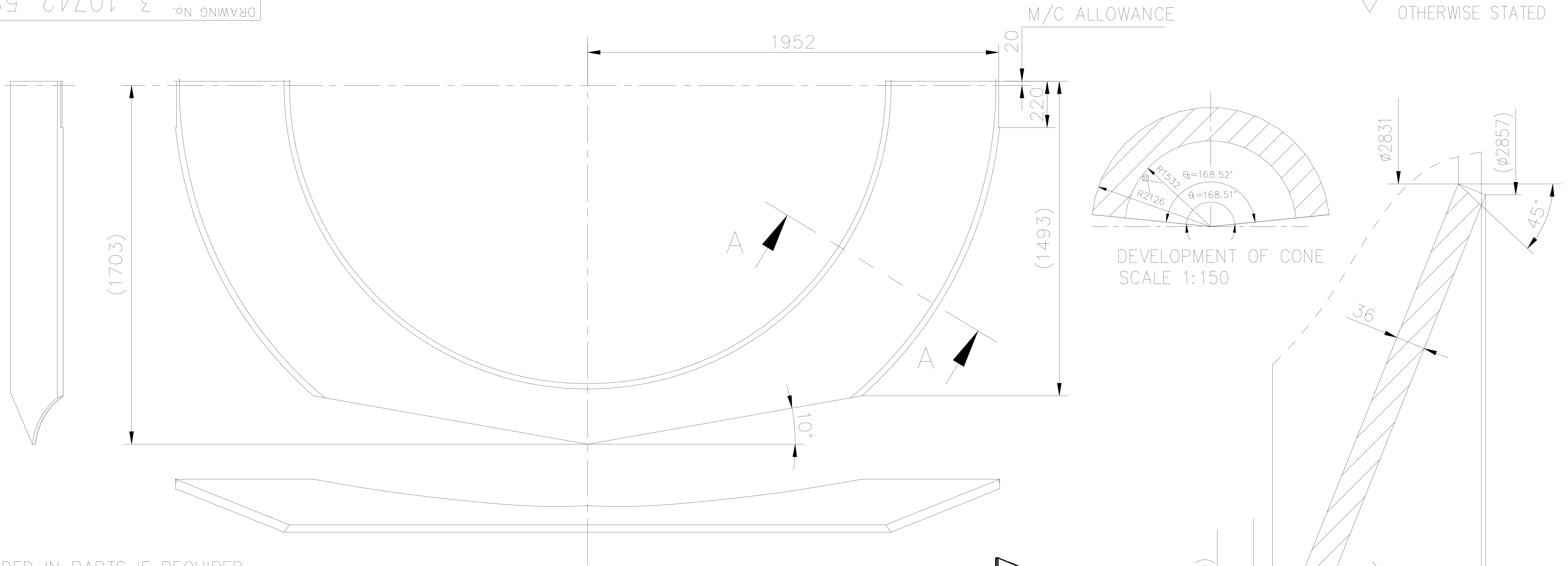
OPERATIONAL SKETCH	
MARKING	DRG.NO., FORGING NO.
BLANK HEATING TIME	1 TO 1.5 HR./100mm RULING SECTION
FORGING TO BE COOLED	
HEAT TREATMENT	AS PER HW 0640599

SL.NO.	OPERATION	EQUIPMENT	TOOLING	HEATING TEMPERATURE FOR FORGING MAX.	FINISH TEMP. FOR FORGING MIN.
1.	INSPECT THE BLANK DIM. CHECK BY OPERATOR		SCALE		
2.	HEAT THE BLANK	FURNACE		1200 °C	
3.	FORGE THE BLANK	HAMMER 3 T			
(I)	ROUND THE CORNERS AND UPSET TO REQUIRED HEIGHT		SCALE		
(II)	PUNCH A HOLE ø 00 FROM THE BOTH ENDS		PUNCH ø100 MET 0474		850 °C
4.	REHEAT THE BLANK	FURNACE		1200 °C	
5.	FORGE THE BLANK	HAMMER 3 T			
6.	FINISH THE FORGING		SCALE		850 °C
7.	HEAT TREAT THE FORGING	FURNACE	SCALE		
	MARK THE FORGING	PUNCH & HAMMER			
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.				

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
HEATTREATMENT				
TECHNOLOGIST				
APPROVED	ASHISH	Sd/-		01.08.23
MTE	DEPARTMENT CODE			
	4300			
SHEET NO.	1	TTL.SH. NO.		1

DRAWING No. 3-10742-58212

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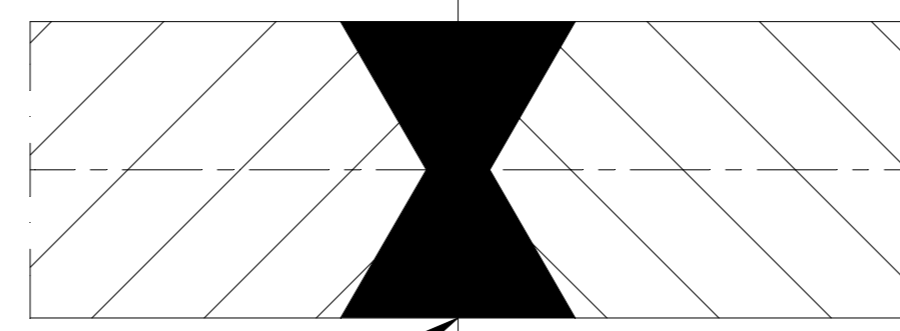


- DIVIDED IN PARTS IF REQUIRED.
- ADDITIONAL LONGITUDINAL WELD SEAMS SHALL BE MADE AS FULL PENETRATION WELD.
- PERFORMANCE DEPENDING ON WELD PROCEDURE OF SUPPLIER/SHOP.

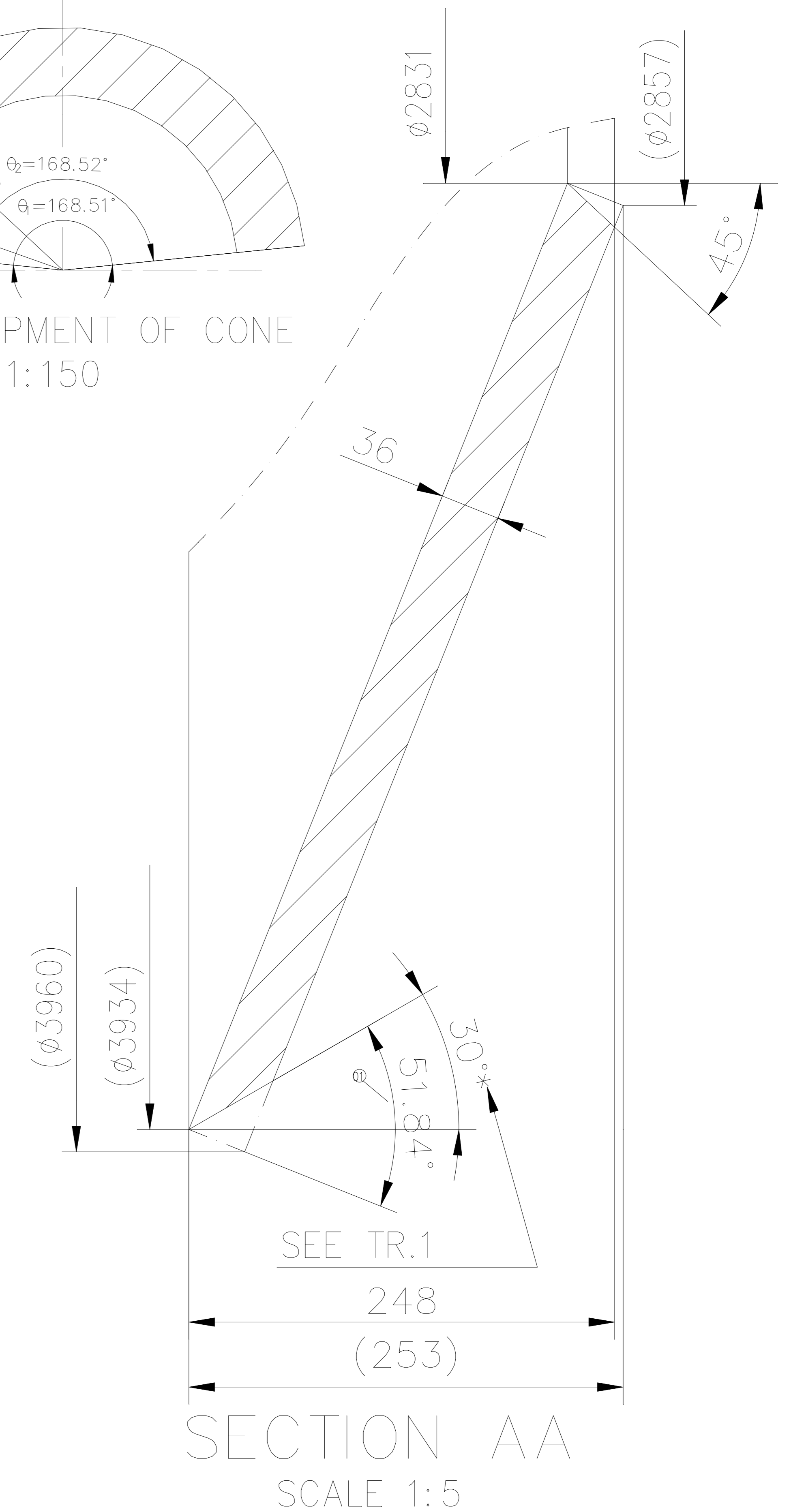
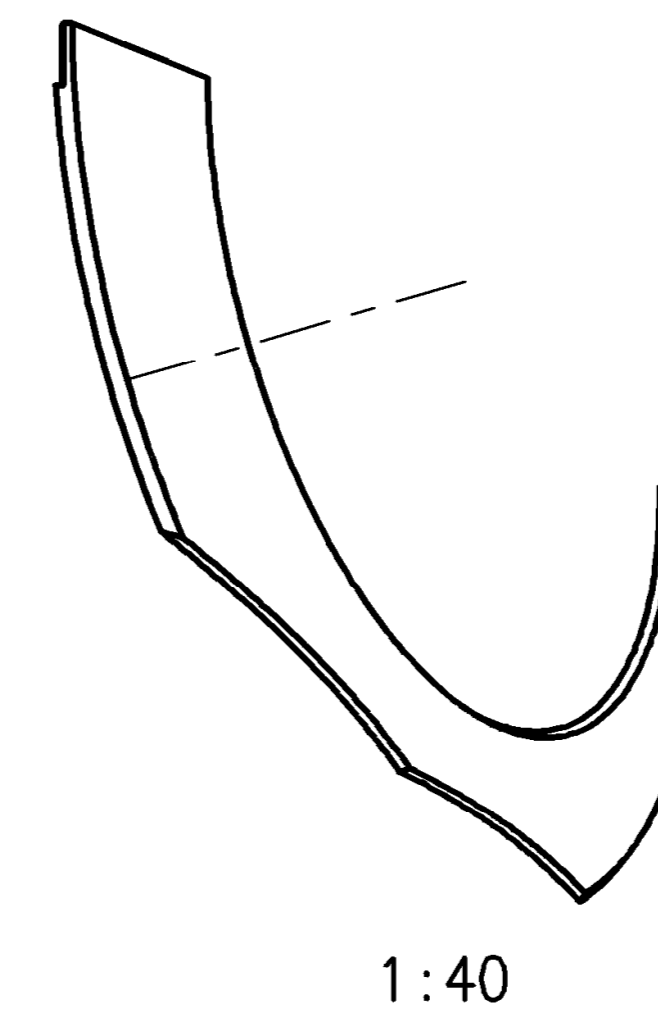
TECHNICAL REQUIREMENTS: -

1. "*" 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

DETAIL: FULL PENETRATION WELD



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



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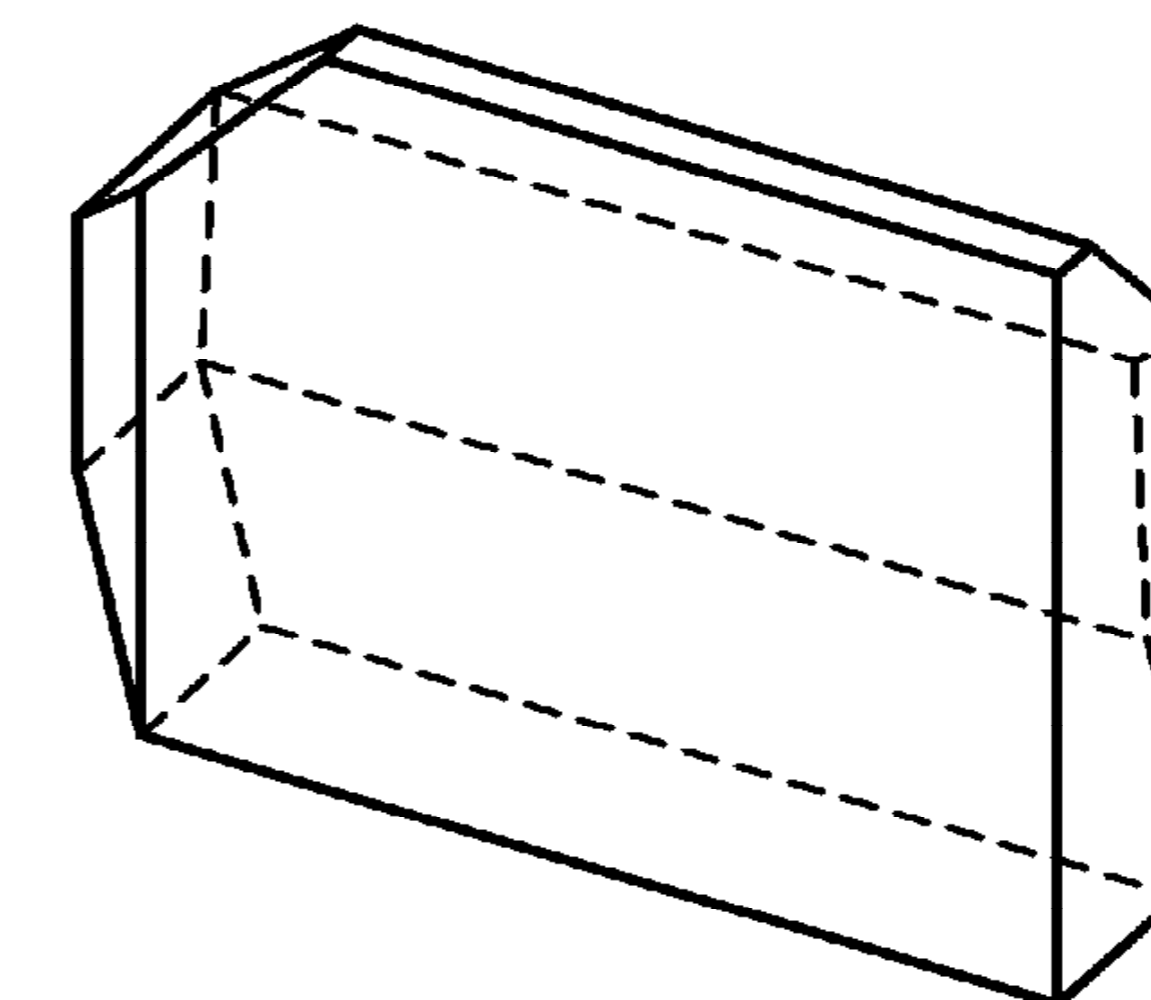
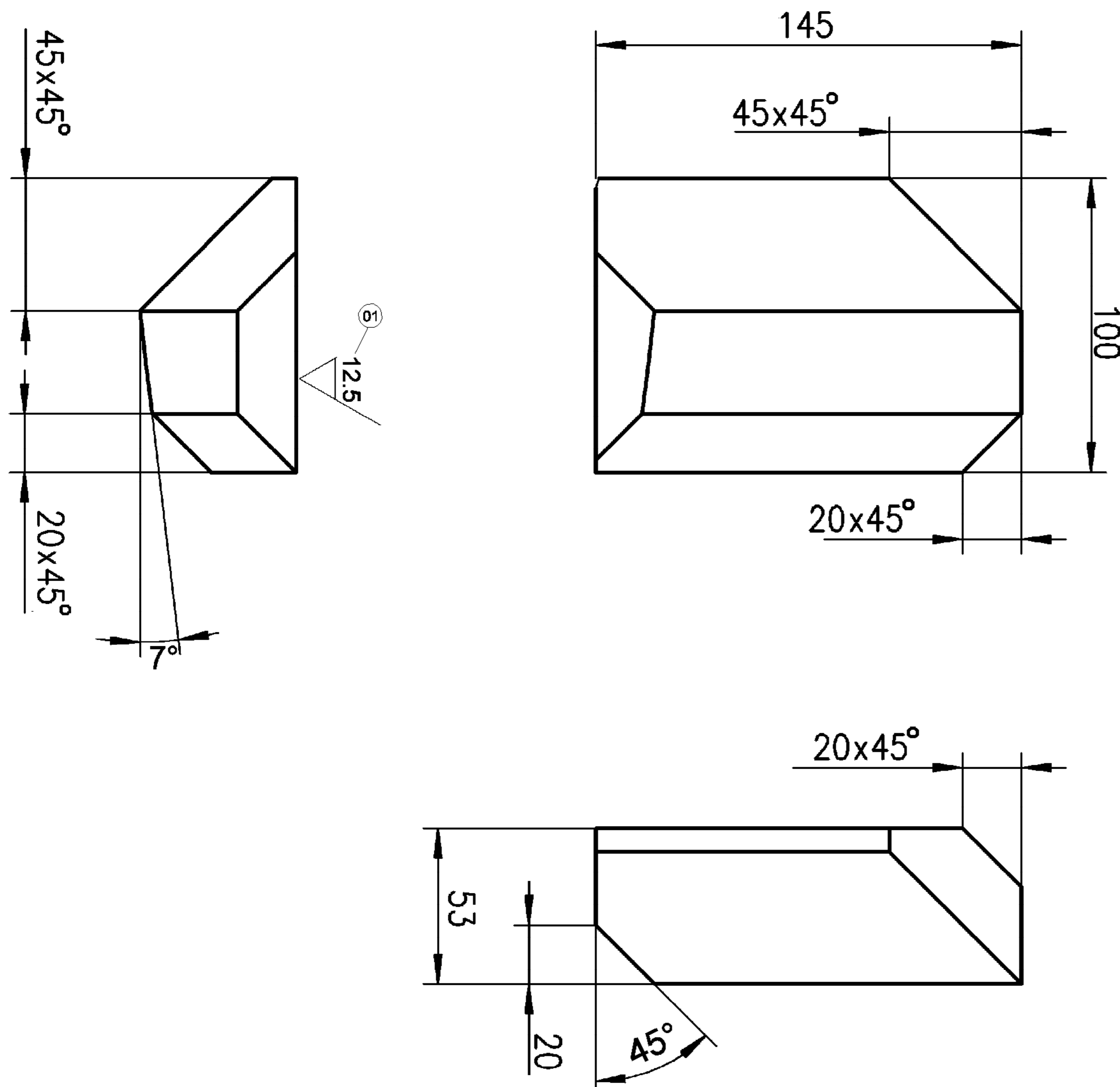
Inventory No. Sign & Date Ref. Drawing No. TIN No. DSGPG-0127030 PSK0461673

GRADE OF UNTOL. DIM		GMS No. / C B O M 9-10742 58000		STATUS OF DRG U		TYPE OF PRODUCT STEAM TURBINE	
M/CG.- AA0230208 m		AGREED DEPT WT		NAME H. VERMA		OR	
WELDING-CLASS 'B' OF AA0621104		SIGN Sd/-		DATE 28.07.12		NAME OF CUSTOMER/PROJECT	
GAS CUTTING-TABLE 3 OF AA0621101						BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR	
REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	STE
		CHECKED	01	25.05.13	CHECKED	STE	4011
			DATE & NO. OF SHEET UPDATED INSERT NEW SHEET.		SCALE 1:20		WEIGHT (KG) 668.00
			AS PER C/A NO. STE-13-F0205.		TITLE : HALF CONE		REF. TO ASSY. DRG. 9-10742-58000
					CARD CODE		ITEM No. 212
					DRAWING NO. 3-10742-58212		NO. OF VAR 73 74
					SHEET No. 1		NO. OF SHEETS 2

3-10742-58218

DRAWING No.

50 / ALL OVER EXCEPT OTHERWISE STATED



TECH.REQUIREMENT:-

1. IDENTIFICATION ACCORDING TO HW 0400397.

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TIN NO.
PSK046L678

Ref.Drawing No.
DSPPG-0127035

Sign & Date

Inventory No.

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	
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	NO. OF VAR
	DRN POONAM	-SD/-	1-12-2011	
	CHD DINESH	-SD/-	2-12-2011	
APPD D.K.RAY	-SD/-	29.07.2012	73 74	

REV	DATE	ALTERED	MANOJ	REV	DATE	ALTERED	MONIKA
02	23.7.15	CHECKED	DINESH	01	16.01.13	CHECKED	DINESH

DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011	1:2.5	4.8	9-10742-58000	218	75 77

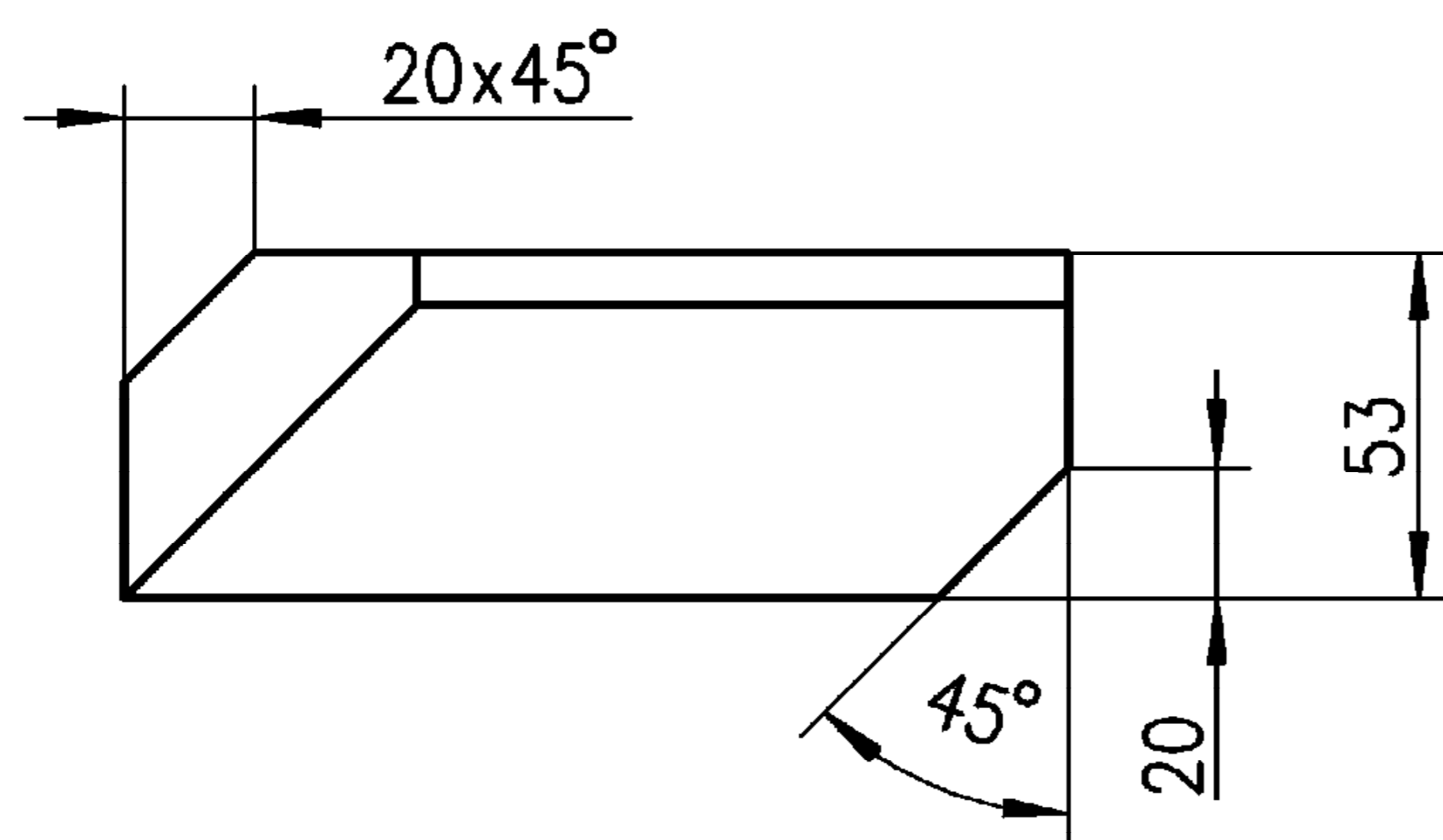
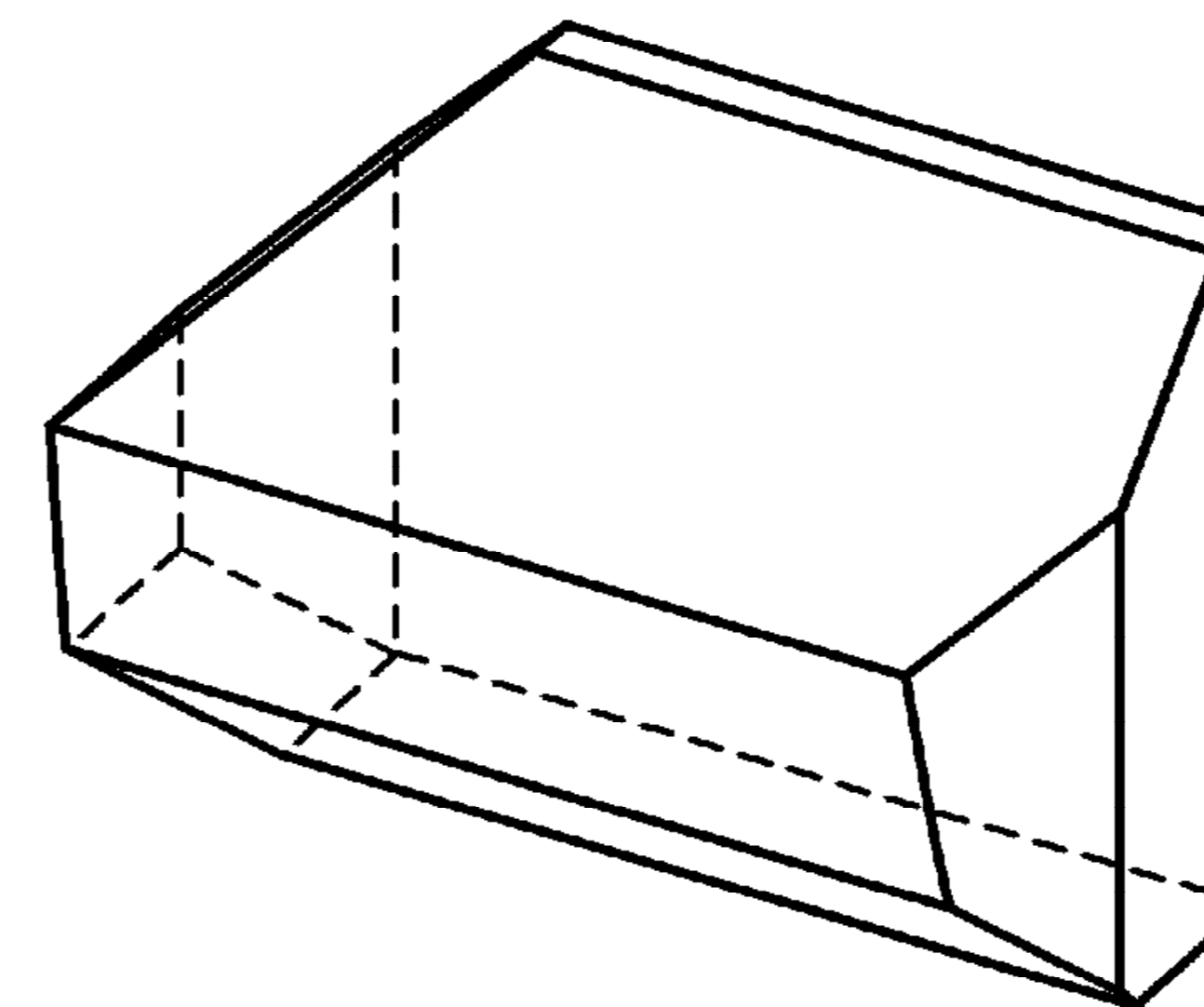
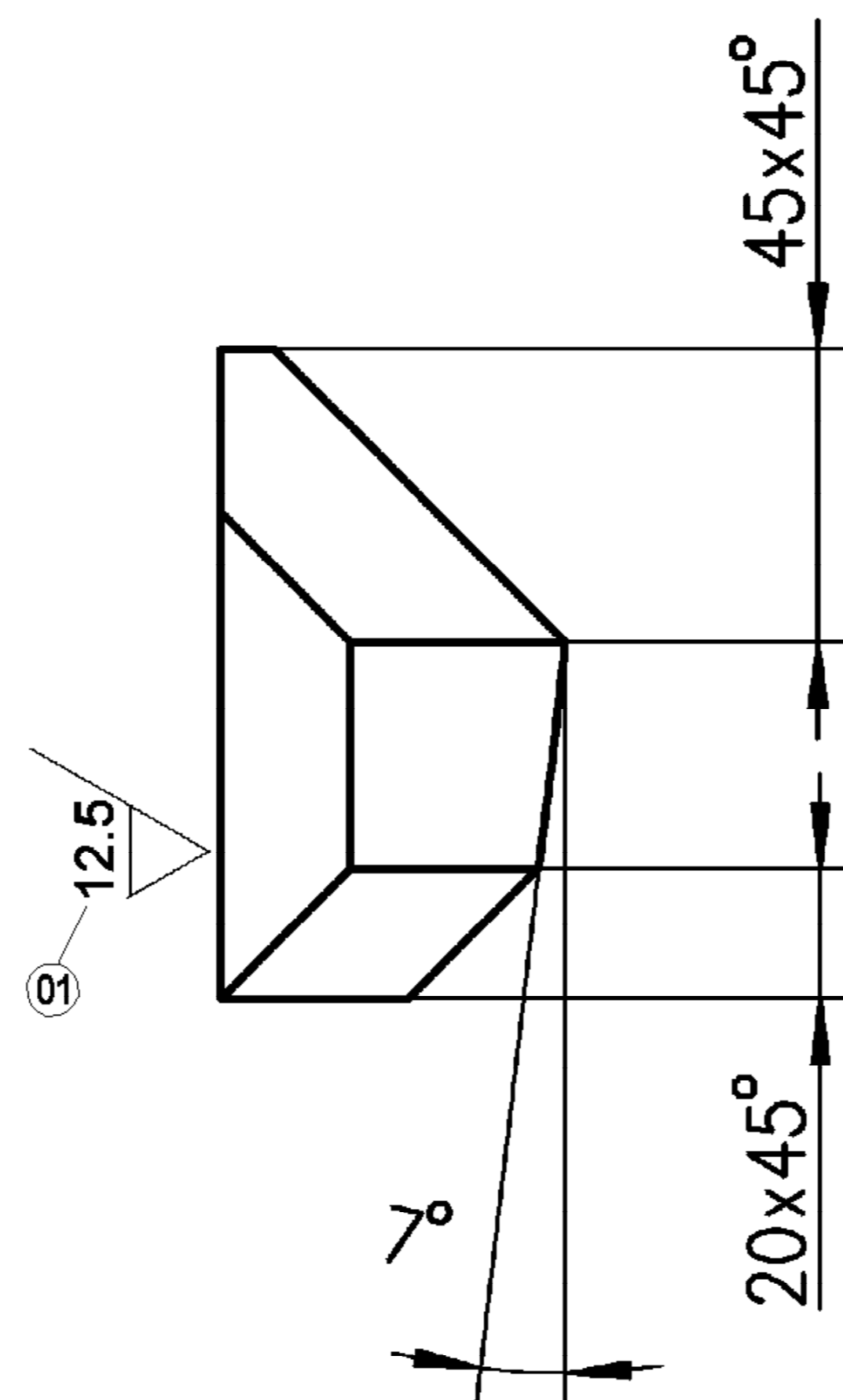
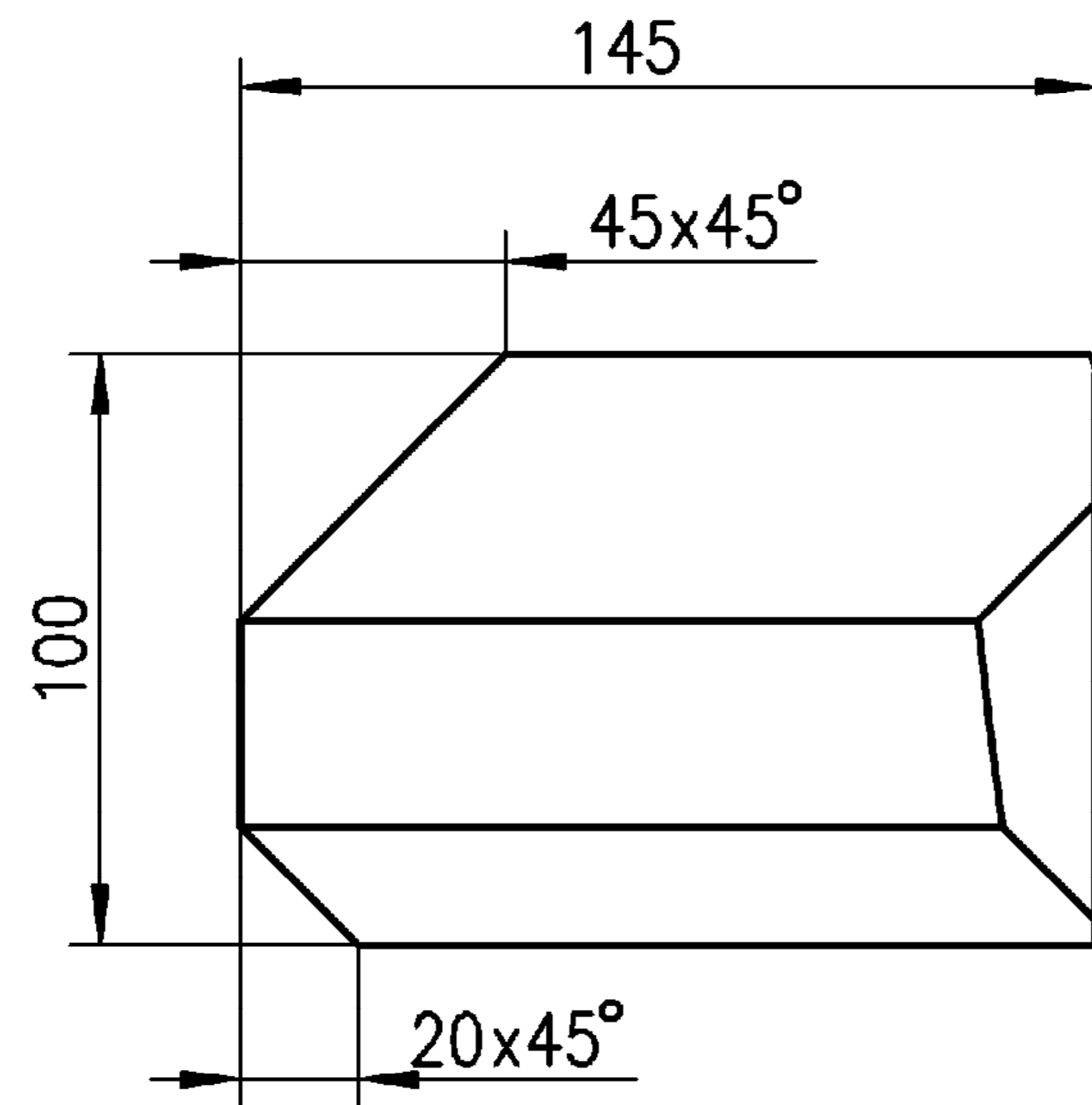
WEIGHT 4.1 CHANGED TO 4.8 KG	AS PER C/A NO. STE-13-F0028
C/A NO. STE-15-F0245.	

TITLE :	PLATE	CARD CODE	DRAWING NO. 3-10742-58218	No. OF SHEETS	01
			SHEET No. 01		

3-10742-58219

DRAWING No.

50 / ALL OVER EXCEPT OTHERWISE STATED



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TIN NO.
PSK046L679

Ref.Drawing No.
DSPPG-0127035

Sign & Date

Inventory No.

TECH.REQUIREMENT:-

- 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
OR
NAME OF CUSTOMER/PROJECT
STEAM TURBINE

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

 **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/-		73 74

REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA
		CHECKED			CHECKED	DINESH

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 :	CARD CODE	DRAWING NO.	No. OF SHEETS
PLATE	7	3-10742-58219	01

AS PER
CVA NO. STE-13-F0028

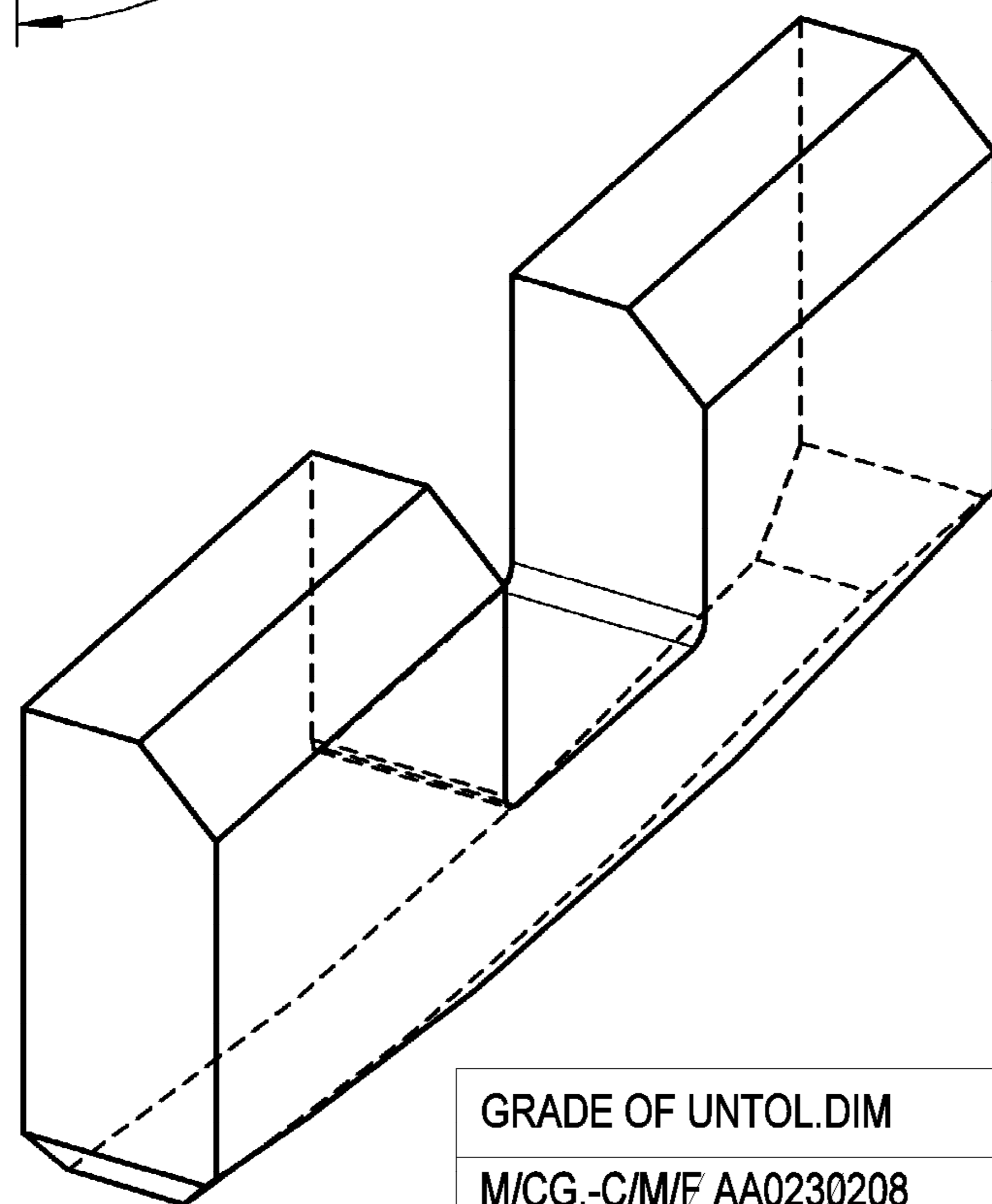
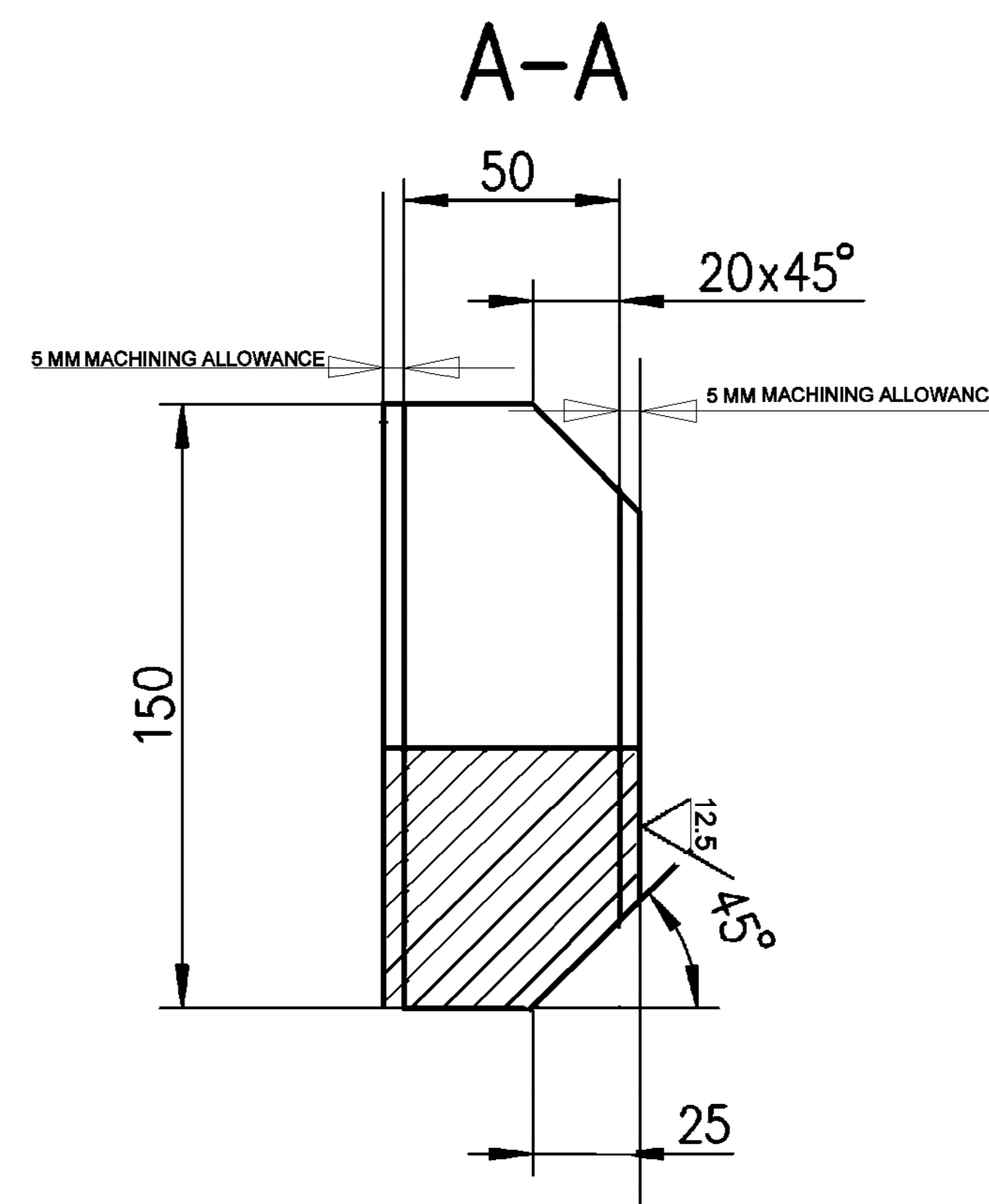
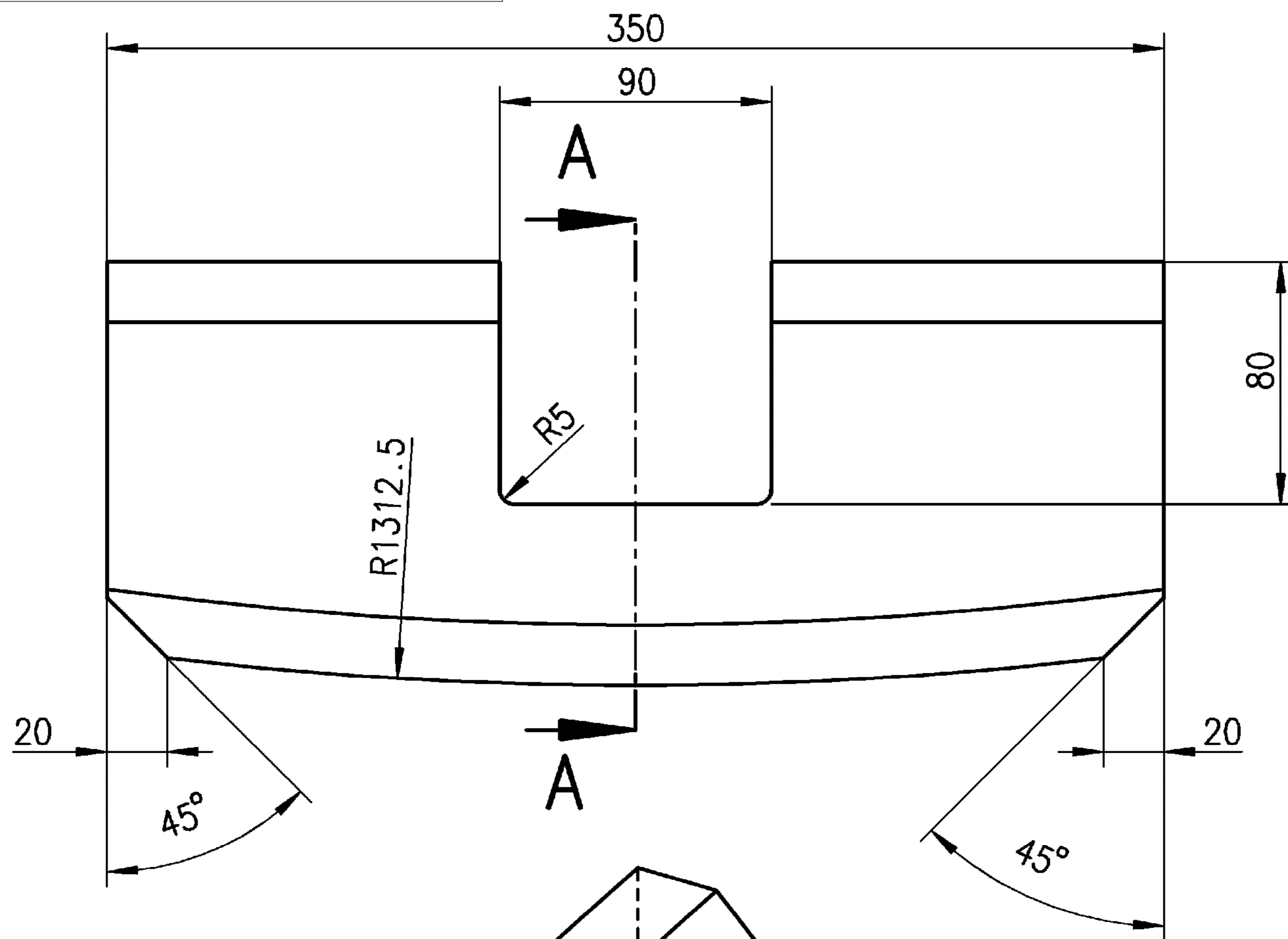
SHEET No. 01 No. OF SHEETS 01

SIZE A3

3-10742-58220

DRAWING No.

50/ ALL OVER EXCEPT OTHERWISE STATED



TECH.REQUIREMENT:-

- IDENTIFICATION ACCORDING TO HW 0400397.

TIN NO.
PSK046L680

Ref.Drawing No.
DSPPG-0127036

Sign & Date

Inventory No.

GMS No./ C B O M
9-10742-58000

STATUS OF DRG

TYPE OF PRODUCT **STEAM TURBINE**
OR
NAME OF CUSTOMER/PROJECT

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

 **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	73 74

REV	DATE	ALTERED	SD/-	MANOJ
02	31.12.16	CHECKED	SD/-	DINESH

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	1:2.5	21.4	9-10742-58000	220	75 77

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.

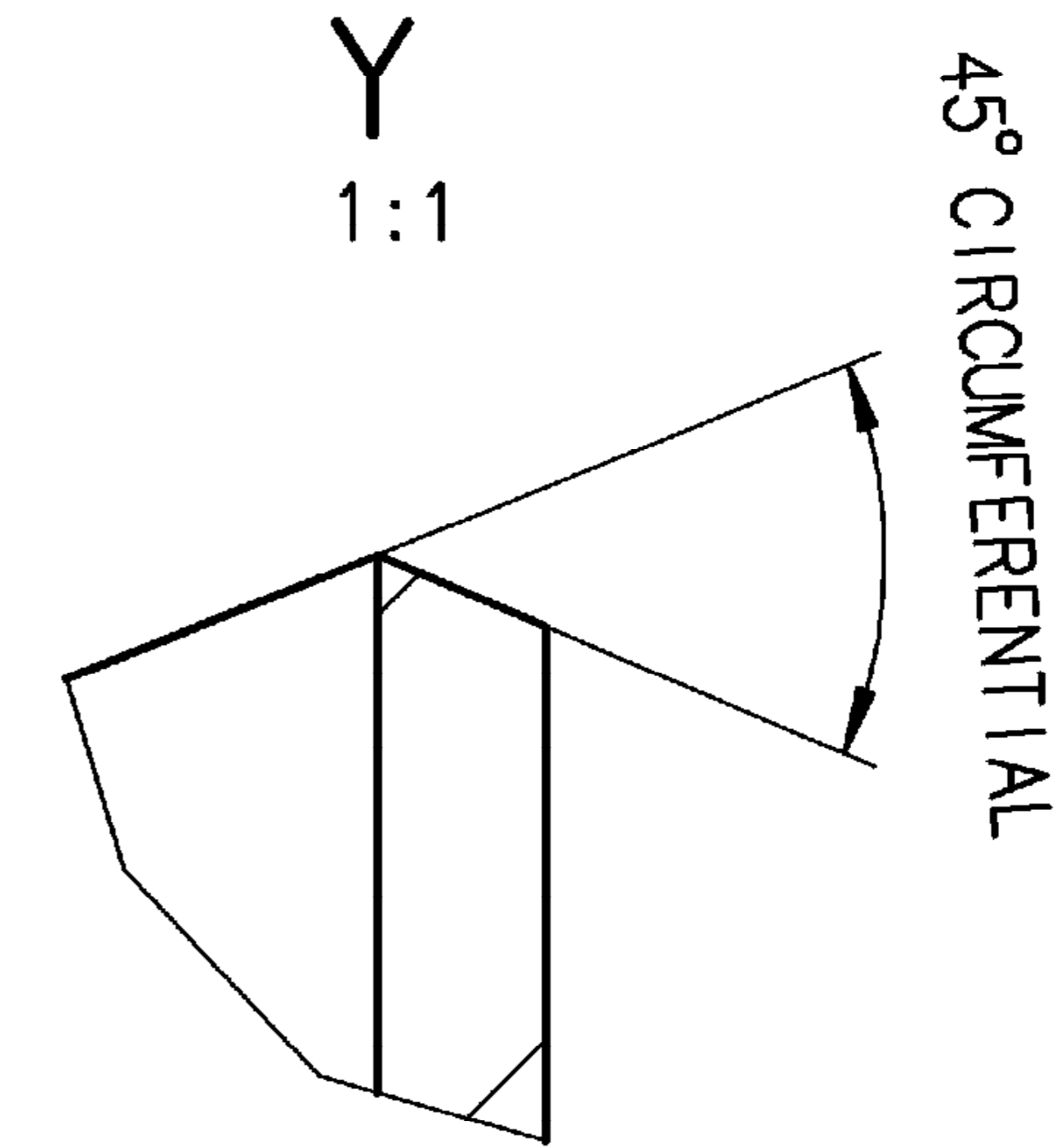
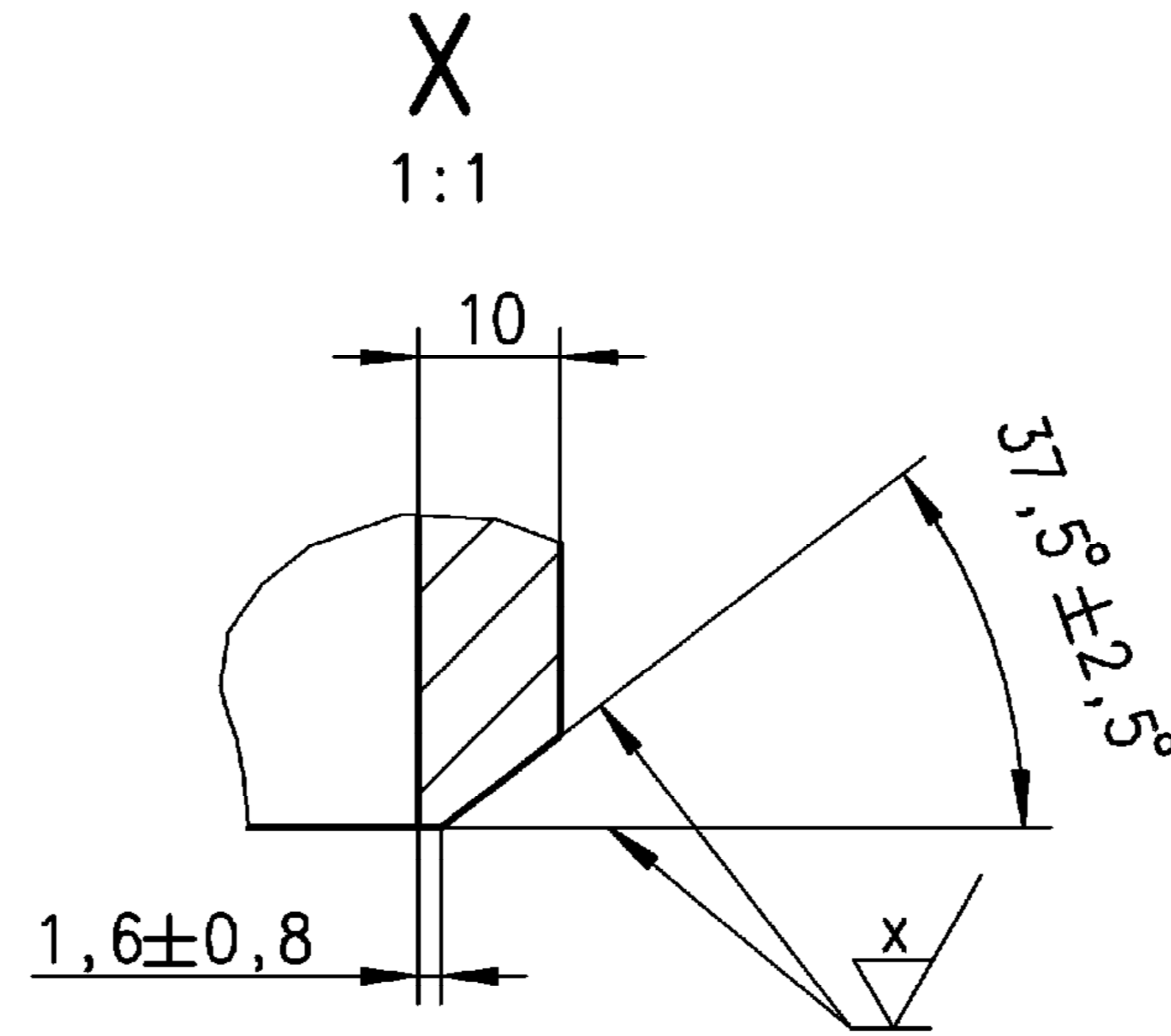
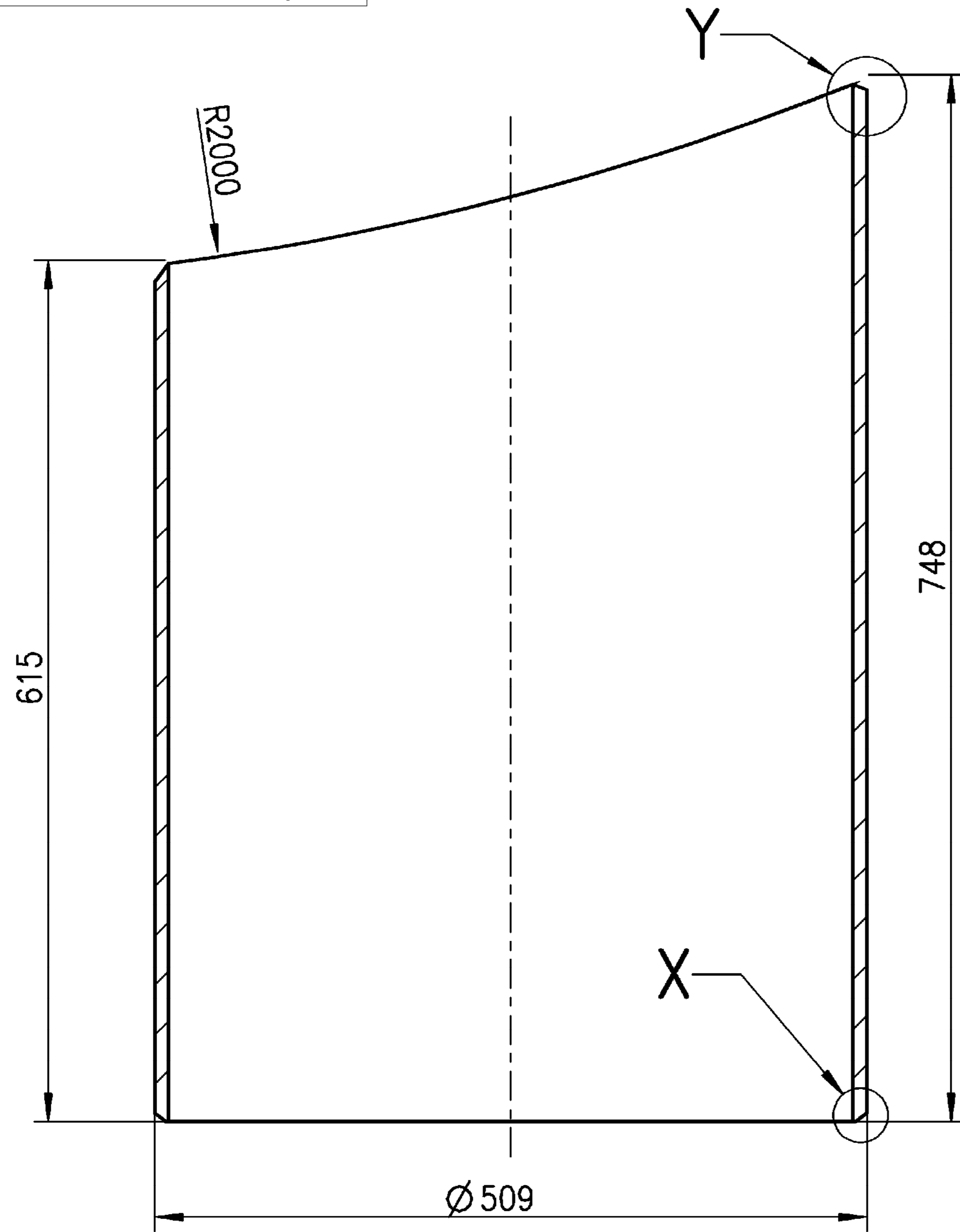
TITLE : **PLATE**

CARD CODE	DRAWING NO.	22 23 24
7	3-10742-58220	—
SHEET No.01	No. OF SHEETS	01

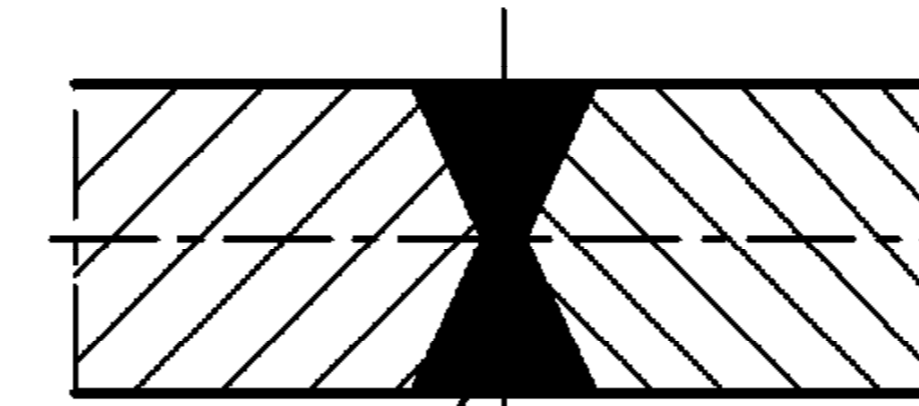
3-10742-58231

DRAWING No.

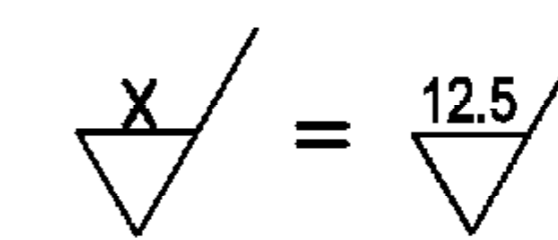
50 ALL OVER EXCEPT OTHERWISE STATED



DEFINITION : 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 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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TIN NO. PSK046L691

Ref. Drawing No. DSPPG-0127046

Sign & Date

Inventory No.

GMS No./ G B O M 9-10742-58000 STATUS OF DRG

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

TYPE OF PRODUCT **STEAM TURBINE**
OR
NAME OF CUSTOMER/PROJECT

 **BHARAT HEAVY ELECTRICALS LTD.**
RANIPUR, HARDWAR

DRN	NAME	SIGN	DATE	NO. OF VAR
	POONAM	-SD/-	1-12-2011	
CHD	DINESH	-SD/-	2-12-2011	
APPD	D.K.RAY	-SD/-		73 74

DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE	4011	1:5	81.4	9-10742-58000	231	75 77

TITLE :	CARD CODE	DRAWING NO.
PIPE	7	3-10742-58231
		22 23 24

REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED	01	18.05.13	CHECKED

MONIKA
DINESH

SH2 SUPERSEDED THE OLD DRG UNDER THE SAME NO.

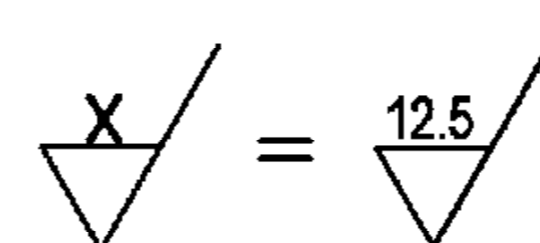
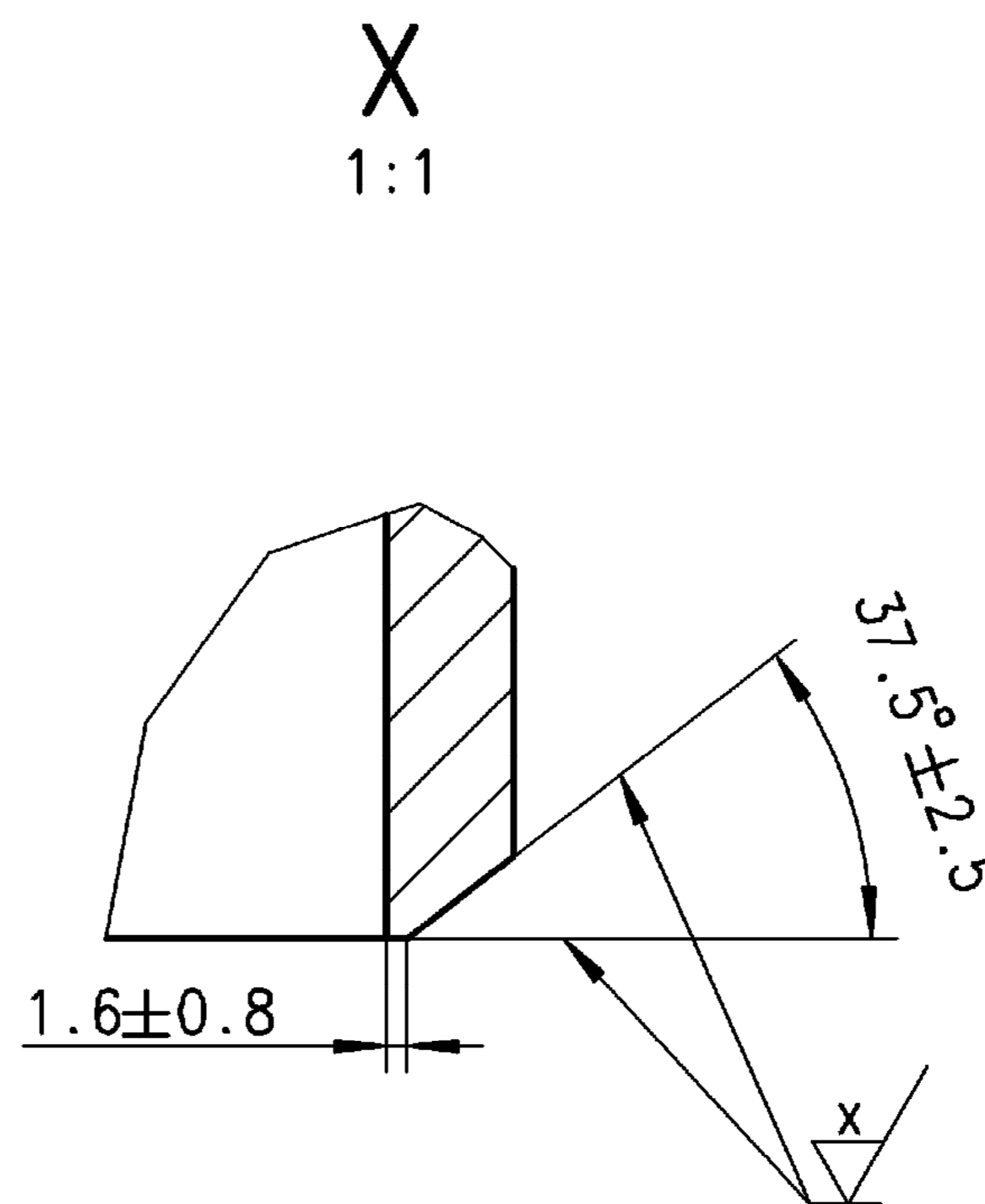
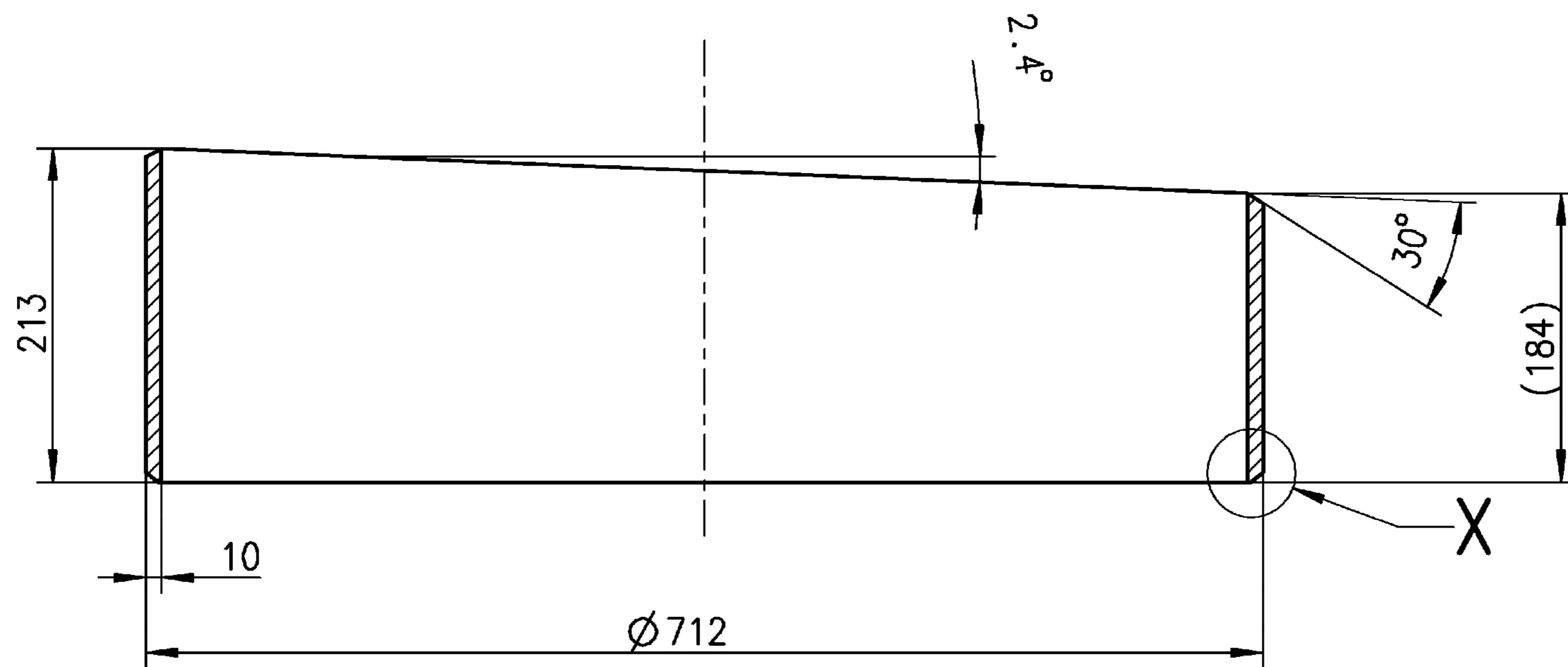
AS PER CIA NO. STE-13-F0201.

SHEET No. 1. No. OF SHEETS 2

3-10742-58238

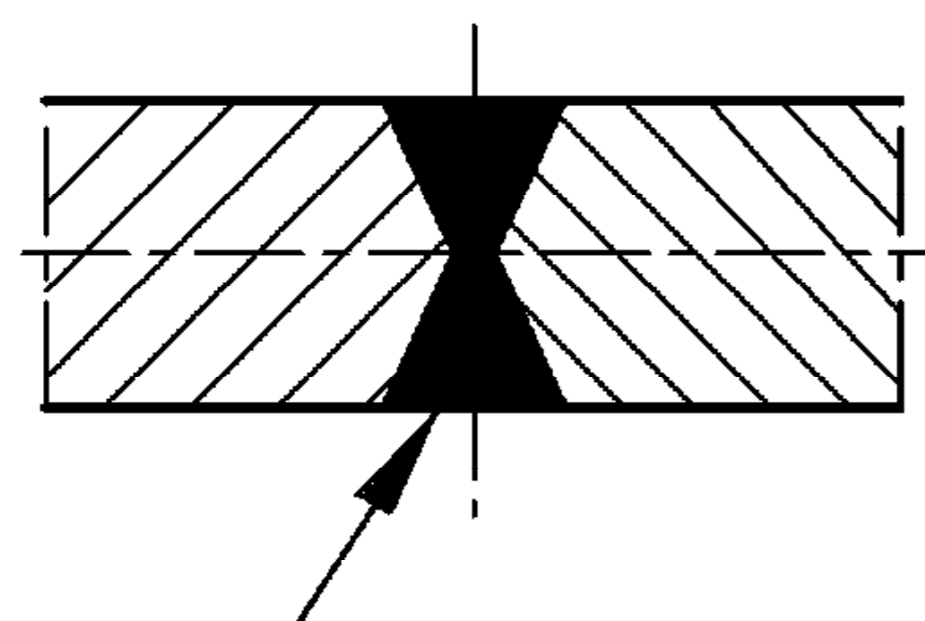
DRAWING No.

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



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.

TIN NO. PSK0461684

Ref Drawing No. DSPPC-0127048

Sign & Date

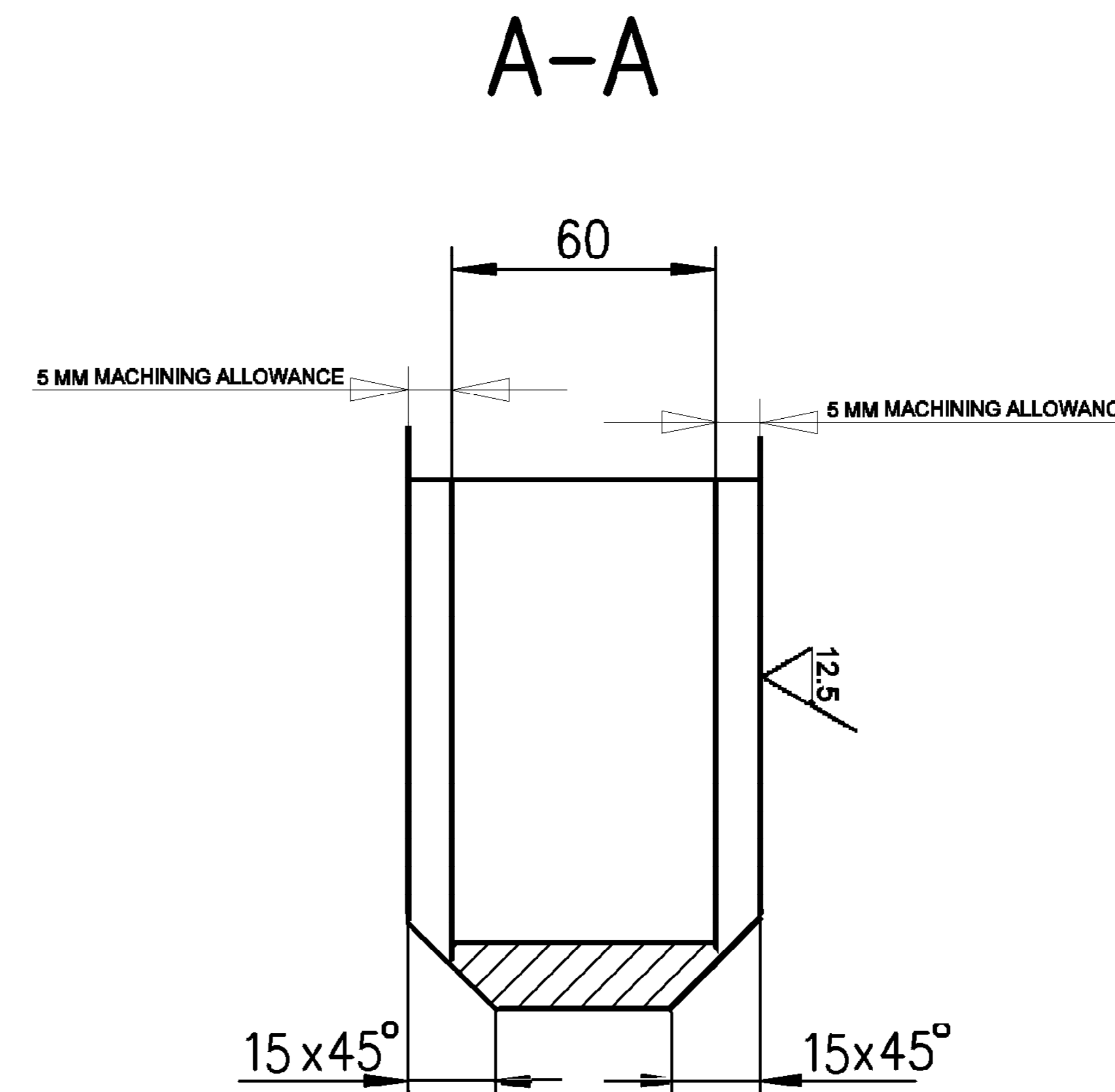
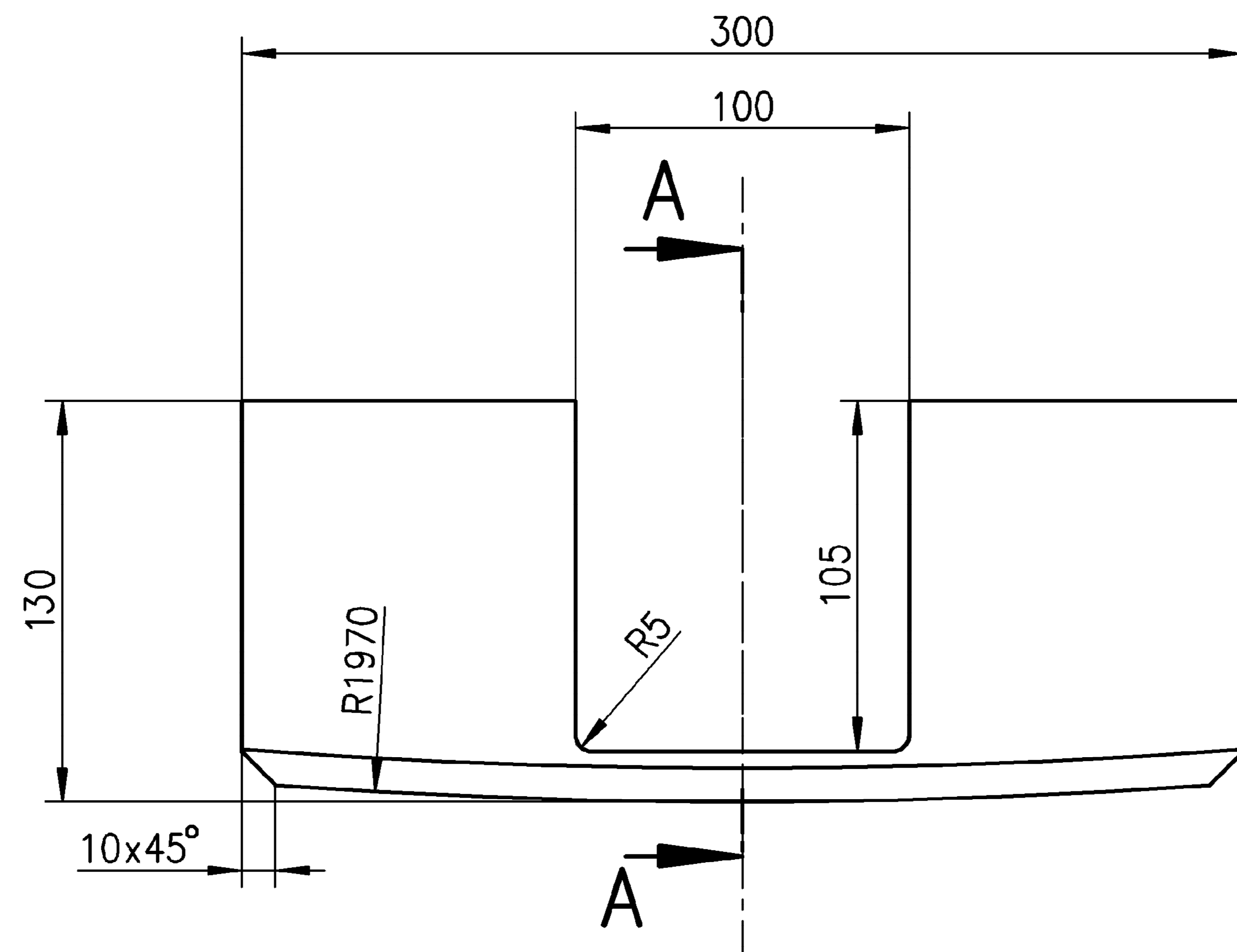
Inventory No.

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	NAME	SIGN	DATE	DRN	NAME	SIGN	DATE	NO. OF VAR 73 74				
WT	H. VERMA	SD/-	28.07.12	CHD	POONAM	-SD/-	1-12-2011					
				APPD	DINESH	-SD/-	2-12-2011					
GRADE OF UNTOL.DIM M/CG.-C/M/F AA0230208			WELDING-A/B/C/D / / AA0621104			GAS CUTTING-'T3'AA0621101		NO. OF ITEMS 75 77				
REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF SHEETS 22 23 24
		CHECKED	02	18.05.13	CHECKED	MANOJ		1:5	33.4	9-10742-58000	238	
SH2 SUPERSEDED THE OLD DRG UNDER THE SAME NO. AS PER CIA NO. STE-13-F0201.			NO CHANGE. C/A NO. STE-12-F0504.			TITLE : PIPE		CARD CODE	DRAWING NO. 3-10742-58238			
								7	SHEET No. 1		No. OF SHEETS 2	

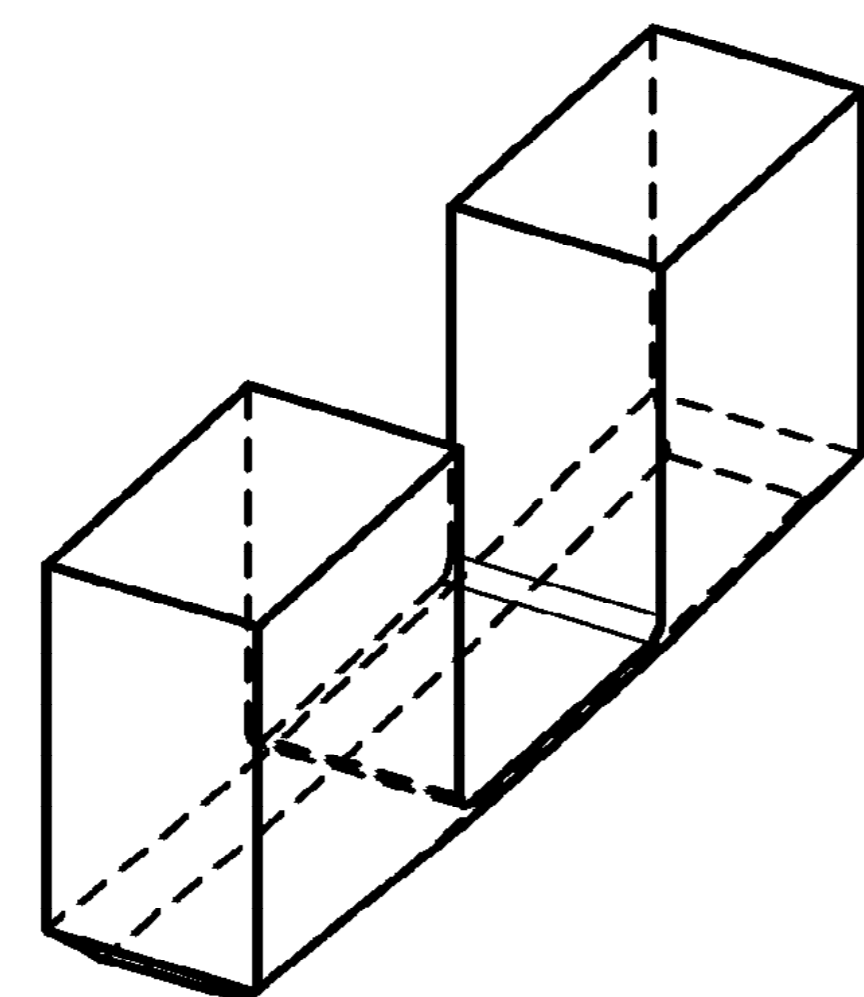
3-10742-58255

DRAWING No.

50/ ALL OVER EXCEPT OTHERWISE STATED



1:5



TECH.REQUIREMENT:-

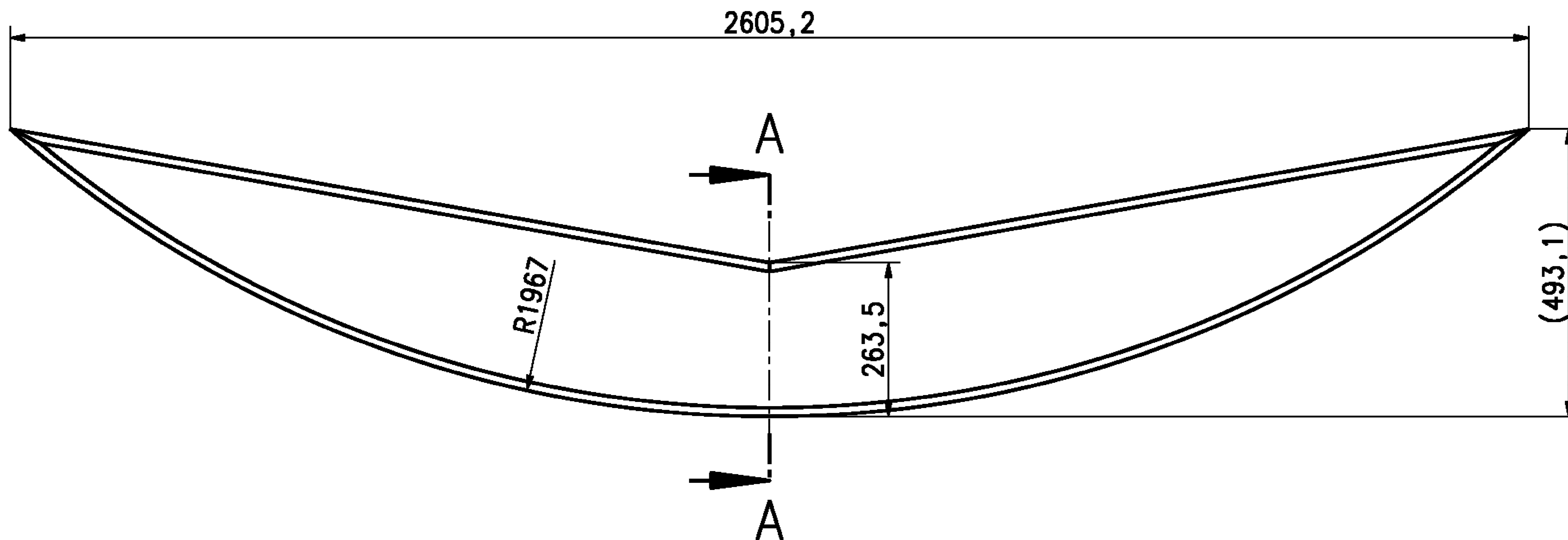
1.IDENTIFICATION ACCORDING TO HW 0400397.

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	DSPPG-0127060				BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR		DRN	NAME	SIGN	DATE	NO. OF VAR			
Sign & Date	REV	DATE	ALTERED	SD/-	MANOJ DINESH	DEPT	STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS		
													02	31.12.16
Inventory No.	GRADE OF UNTOL.DIM		AGREED DEPT		NAME	SIGN	DATE	Bharat Heavy Electricals Ltd. Logo		DRN	NAME	SIGN	DATE	NO. OF VAR
	M/CG.-C/M/F AA0230208		WT	H. VERMA	SD/-	28.07.12	CHD	DINESH	SD/-	01.12.2011				
WELDING-A/B/C/D / / AA0621104		GAS CUTTING-'T3'AA0621101		REV		DATE	ALTERED	SD/-	MANOJ DINESH	APPD	D.K.RAY	SD/-	29.07.2012	73 74
5 MM MACHINING ALLOWANCE SHOWN DIM 120MM CHANGED TO 130MM AS PER C/A NO. STE-16-F0411		WEIGHT 11.5 CHANGED TO 13.4KG C/A NO.STE-15-F0245.		REV		DATE	ALTERED	SD/-	MANOJ DINESH	TITLE :		DRAWING NO. 3-10742-58255		
				REV		DATE	ALTERED	SD/-	MANOJ DINESH	CARD CODE		SHEET No. 1		No. OF SHEETS 1
				REV		DATE	ALTERED	SD/-	MANOJ DINESH	7		22 23 24		

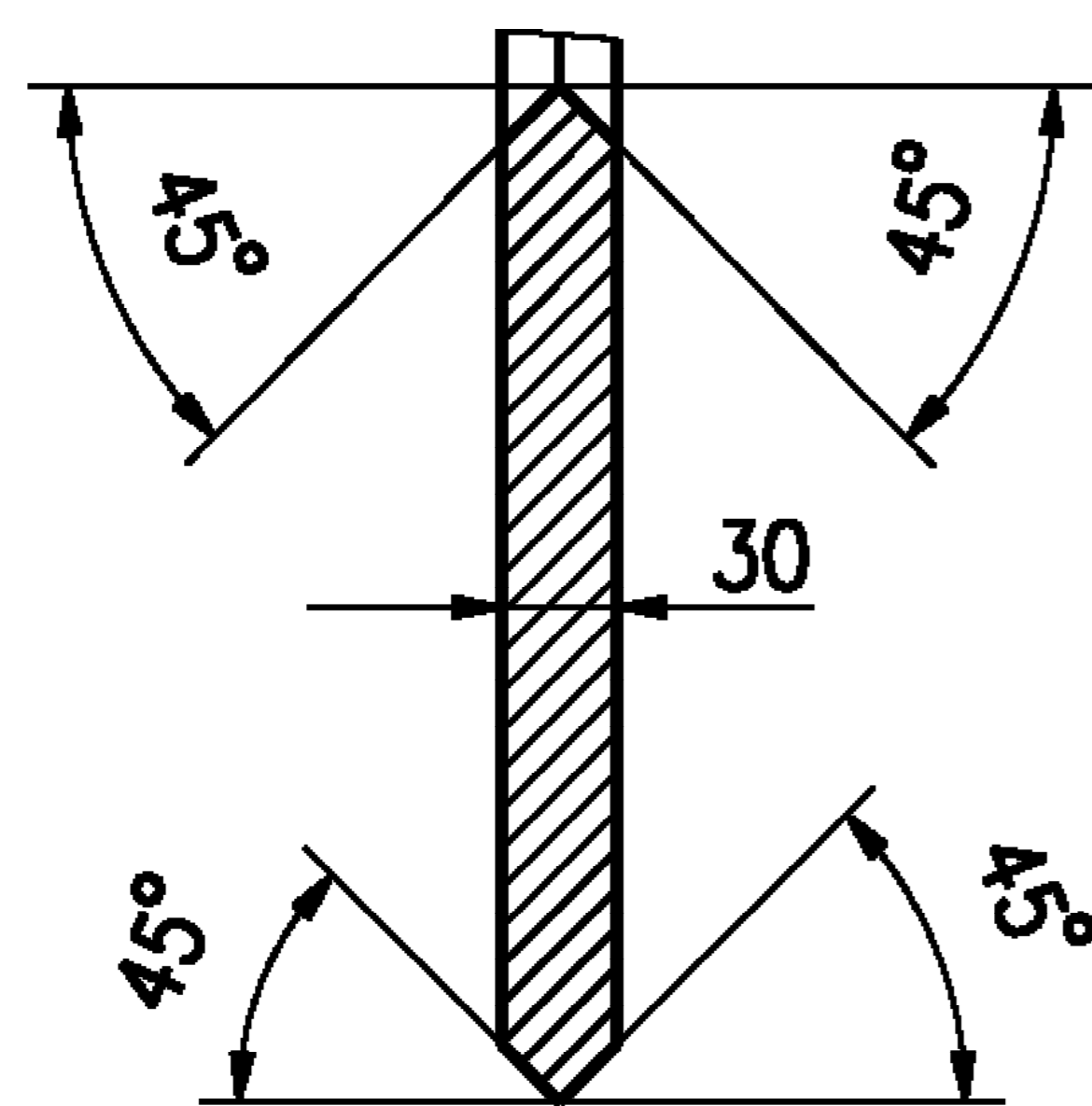
3 10742 58259

DRAWING No.

✓ GAS CUT ALL OVER EXCEPT OTHERWISE STATED



A-A
1:5



TECHNICAL REQUIREMENTS :-

- 1) IDENTIFICATION ACCORDING TO HW0400397

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Ref. Drawing No.
DPPPG-70128844

TIN NO.
P0049732300

Inventory No.

GMS No./- C B O M
91074232000
STATUS OF DRG
U

AGREED DEPT	NAME	SIGN	DATE
WT	S K Thakur	-SD-	04-01-17

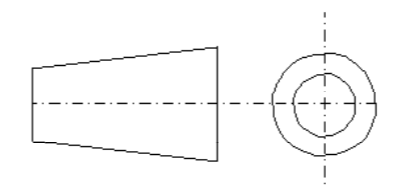
TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT
STEAM TURBINE

 **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

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	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

DEPT STE  SCALE WEIGHT (KG) REF. TO ASSY. DRG. ITEM NO. NO. OF ITEMS
CODE 4011 1:10 127.3 91074232000 259 75 77

TITLE : **PLATE** CARD CODE DRAWING NO. 31074258259
7 22 23 24

SHEET No. 1 No. OF SHEETS 1

SIZE A3

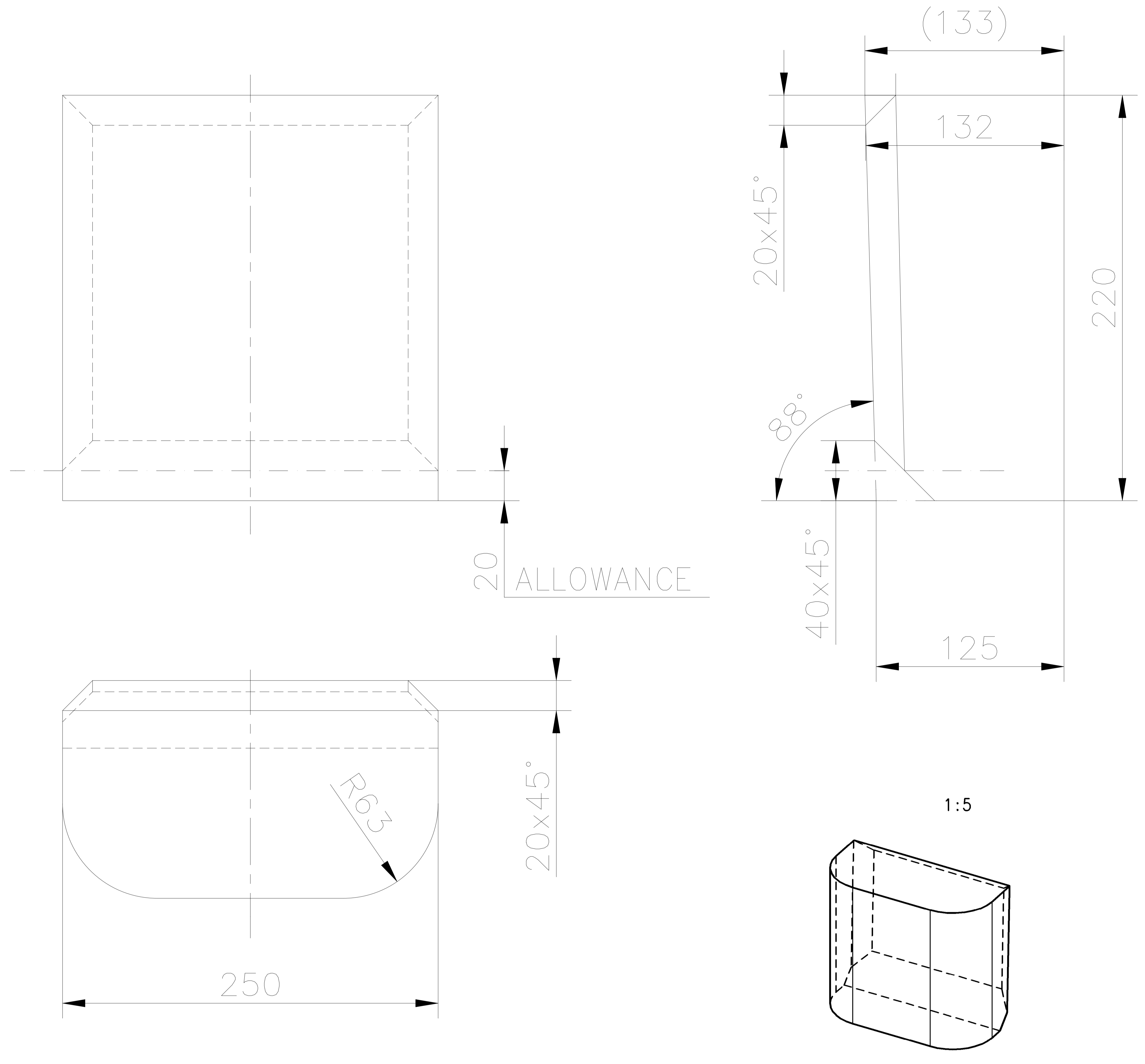
FIRST ANGLE PROJECTION

(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			ZONE			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

50/ ALL OVER EXCEPT OTHERWISE STATED



TECHNICAL REQUIREMENT: -

- IDENTIFICATION ACCORDING TO HW 0400397

TIN NO. PSK046L658
 Ref. Drawing No > DSPPG-0127032
 Sign & Date
 Inventory No.

 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 CODE 4011		SCALE 1:5	WEIGHT (KG) 50.1	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 114 214	NO. OF ITEMS —
TITLE : JOINT FLANGE			CARD CODE	DRAWING NO. 4-10742-58114		
				SHEET No. 01 No. OF SHEETS 01		

A4 SIZE

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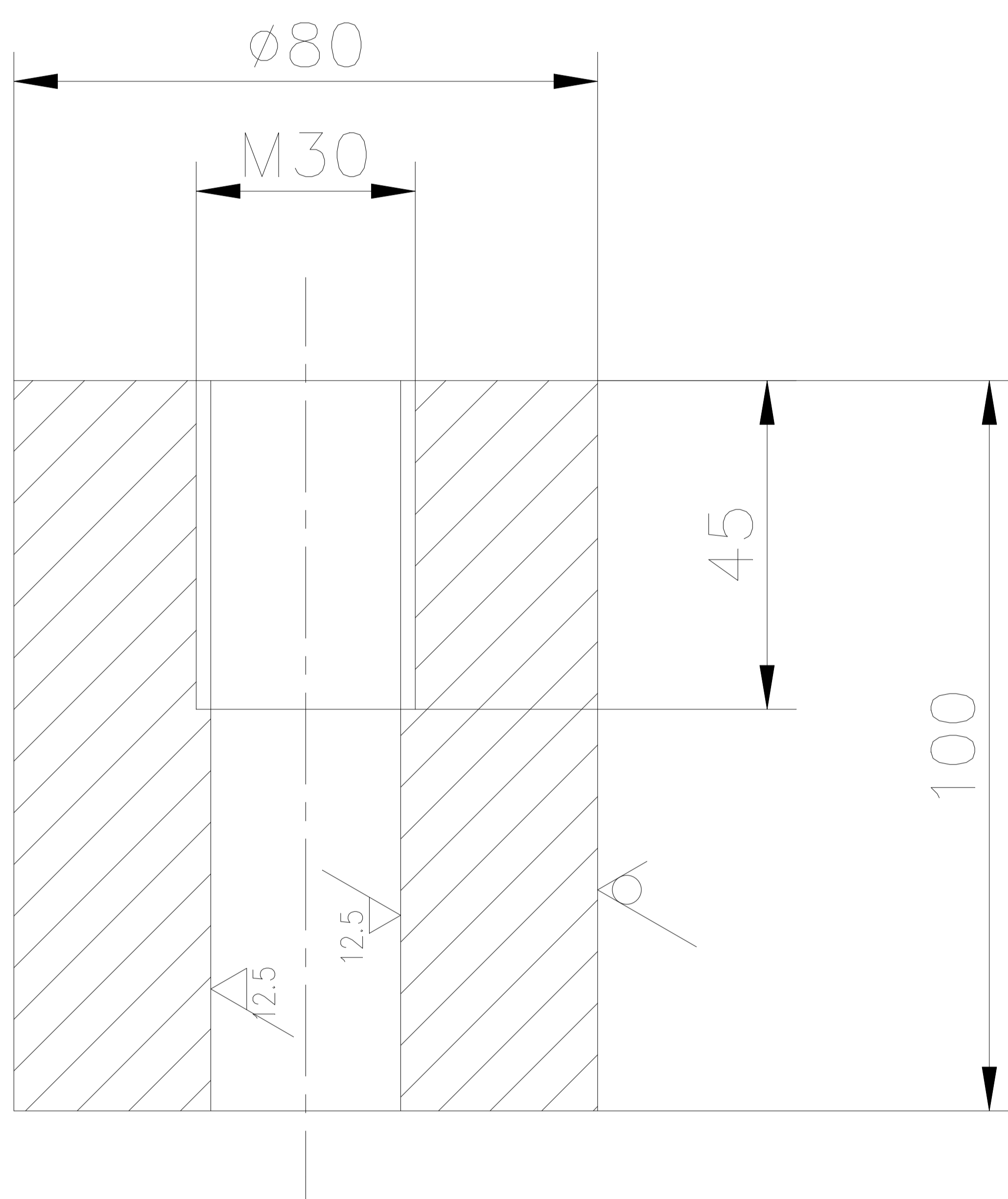
FIRST ANGLE PROJECTION

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

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO.		STATUS OF DRG U	
		CHECKED			CHECKED	9-10742-58000			
ZONE			ZONE			AGREED DEPT	NAME	SIGN	DATE
						WT	H. VERMA	sd/-	28.07.12

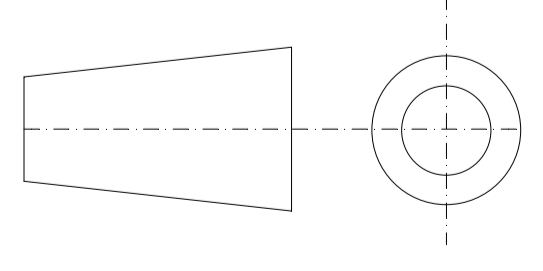
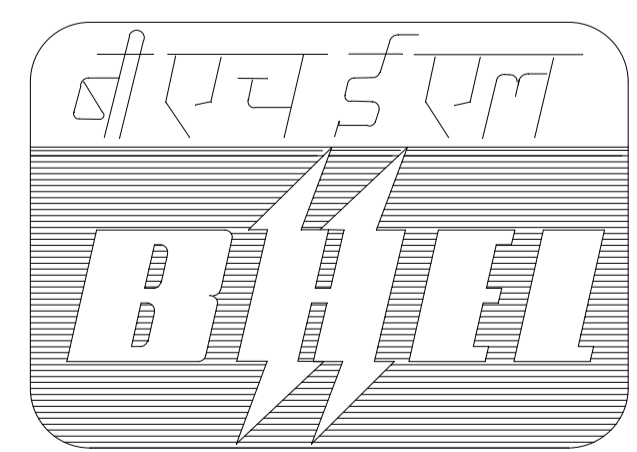
GRADE OF UNTOL.DIM M/CG. - AA0230208 m WELDING-CLASS 'B' OF AA0621104 GAS CUTTING-TABLE 3 OF AA0621101

12.5/  ALL OVER EXCEPT OTHERWISE STATED



TECHNICAL REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW 0400397

Inventory No.	DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS	
	CODE 4011		1:2	3.5	9-10742-58000	148	—	
Sign & Date	 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR				NAME	SIGN	DATE	NO. OF VAR
					DRN	POONAM	sd/-	
Ref.Drawing No>	TIN NO.			CHD	DINESH	sd/-	01.12.11	
DSPPG-0127068	PSK046L664			APPD	D.K.RAY	sd/-		
TITLE :					CARD CODE	DRAWING NO.		
CONNECTION						4-10742-58148		
						7 22 23 24		
						SHEET No. 01 No. OF SHEETS 01		

A4 SIZE

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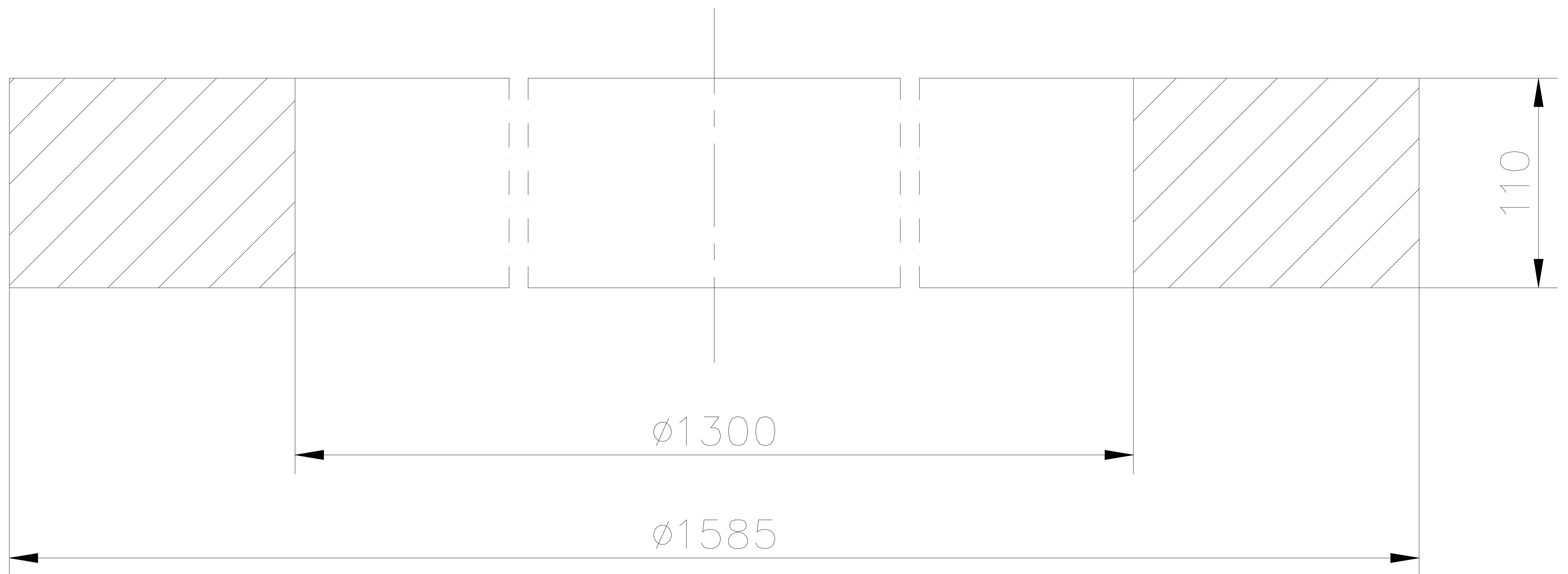
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FIRST ANGLE PROJECTION

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

REV	DATE	ALTERED	REV	DATE	ALTERED	MANOJ	GMS No./ C.B.O.M.- NO.		STATUS OF DRG U	
		CHECKED	01	23.7.15	CHECKED	DINESH	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



TECHNICAL REQUIREMENT

- IDENTIFICATION ACCORDING TO HW 0400397

Inventory No.	DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
	CODE 4011		1:5	536.00	9-10742-58000	150	
Sign & Date	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				
Ref.Drawing No>	DSPPG-0127058	TIN NO.	PSK046L666	APPD	D.K.RAY	sd/-	29.07.2012
TITLE :		RING		CARD CODE	DRAWING NO. 4-10742-58150		7 22 23 24
				SHEET No. 01		No. OF SHEETS 01	

A4 SIZE

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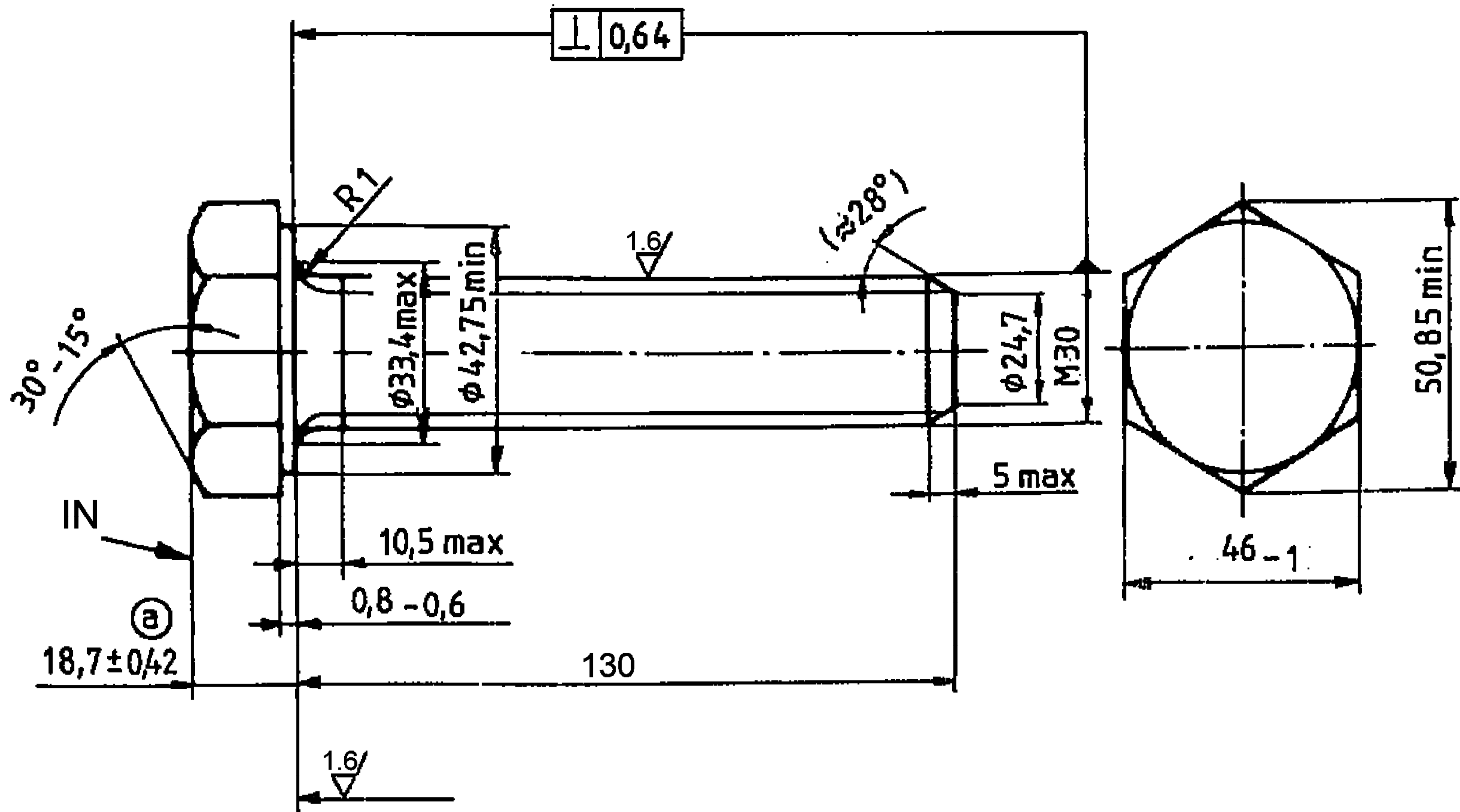
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FIRST ANGLE PROJECTION

(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			ZONE			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			

12.5/ ALL OVER EXCEPT OTHERWISE STATED



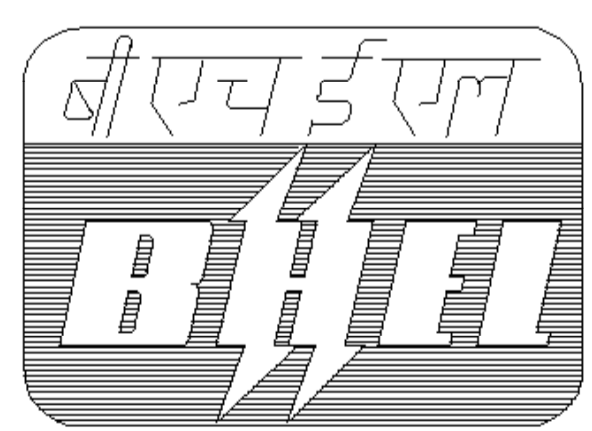
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TIN NO. PMOA58F89C76
Ref.Drawing No> A0152A9314
Sign & Date
Inventory No.

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/-		

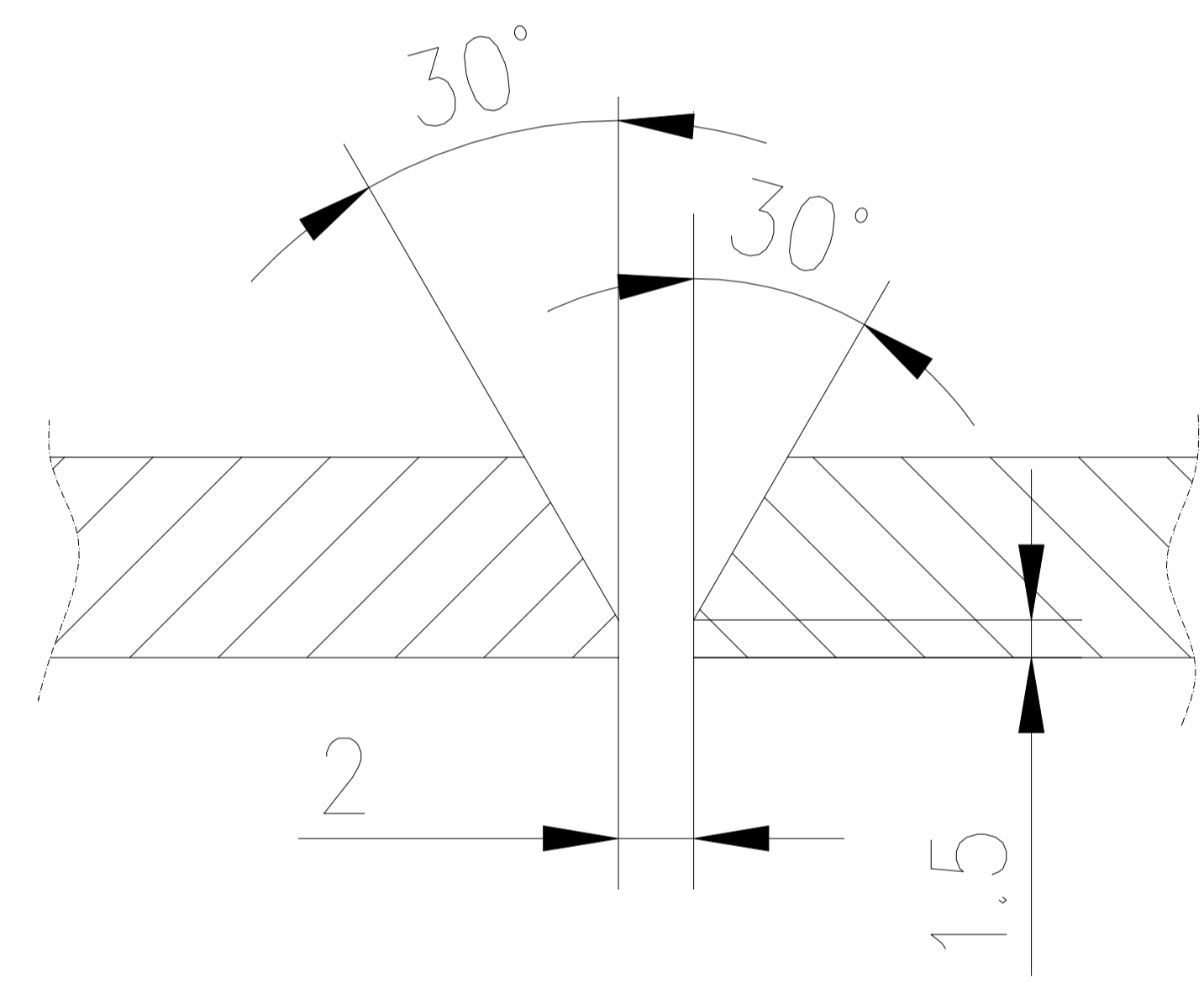
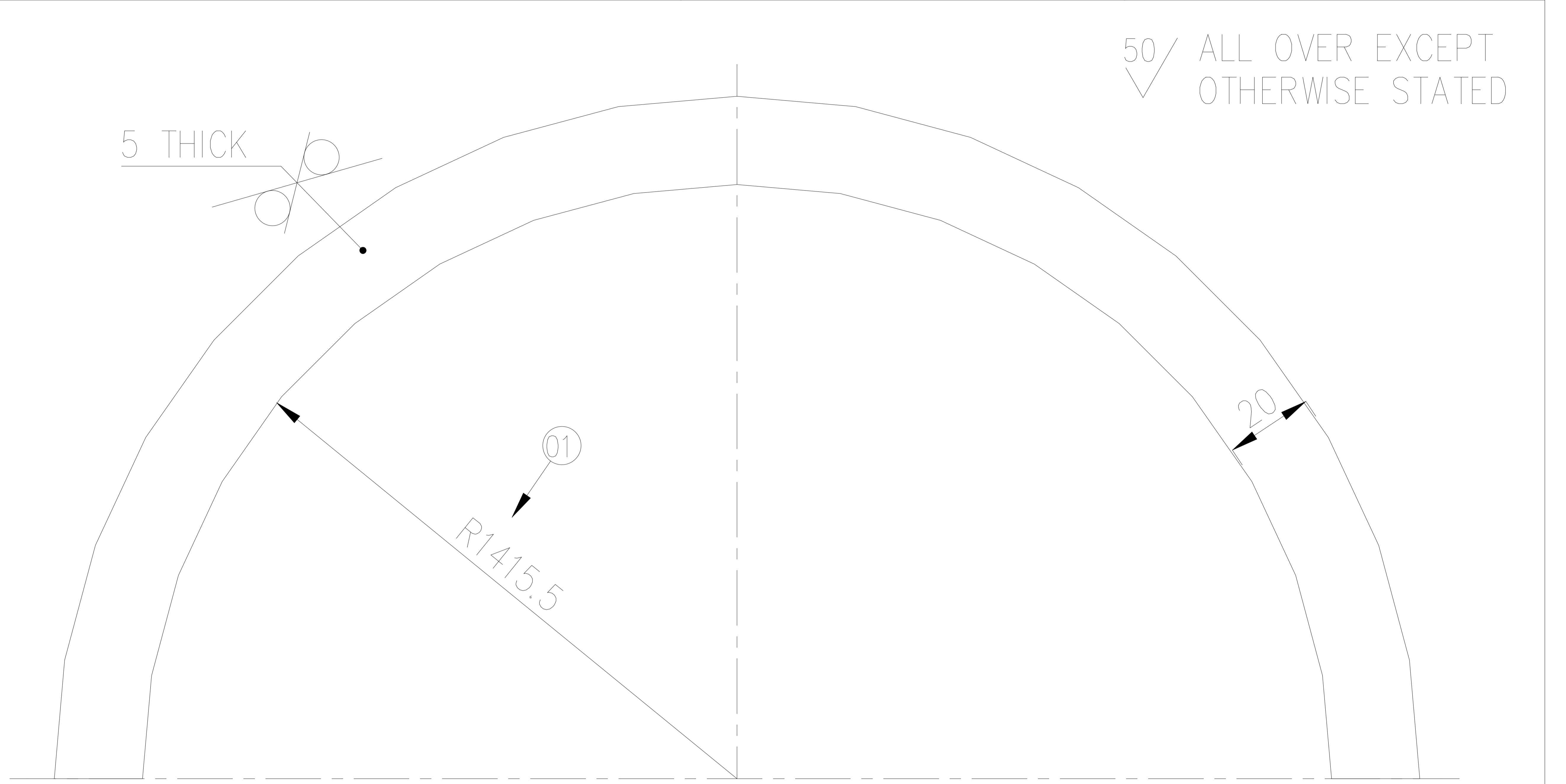
DEPT STE		SCALE 1:5	WEIGHT (KG) 0.92	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 152	NO. OF ITEMS
CODE4011						
TITLE : HEXAGON HEAD SCREW (M30X130)			CARD CODE	DRAWING NO. 4-10742-58152		
				SHEET No. 01 No. OF SHEETS 01		

A4 SIZE

FIRST ANGLE PROJECTION

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

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 WT	NAME H.VERMA	SIGN SD/-	DATE 28.7.12
GRADE OF UNTOL.DIM M/CG. C/M/A -AA0230208			WELDING A/B/C/D AA0621104			GAS CUTTING-T3 AA0621101				



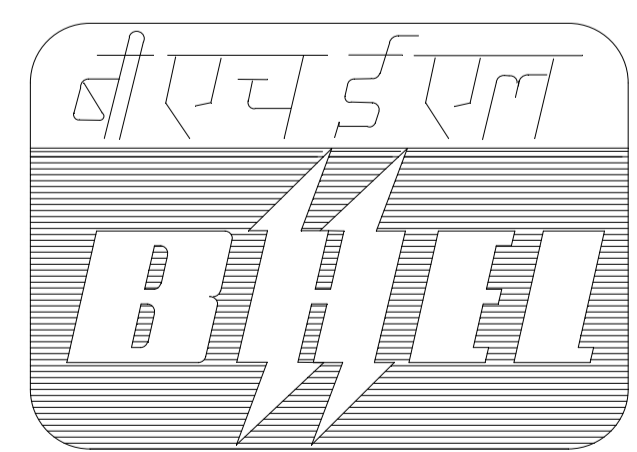
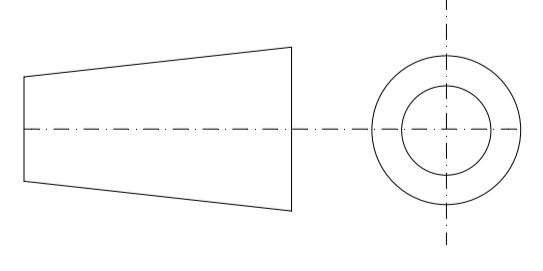
T.R.
IDENTIFICATION ACCORDING TO HW0400397.

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.

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L1141112

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	 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR	DRN	NAME	SIGN	DATE	NO. OF VAR	
		CHD	DINESH	SD/-	27.7.12		
		APPD	D.K. RAY	SD/-	6.08.12		
Inventory No.	DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
	CODE 4011		NTS	3.50	9-10742-58000	153	—
Inventory No.	TITLE : BACKING PLATE			CARD CODE	DRAWING NO. 4 10742 58153		—
					SHEET No. 01		No. OF SHEETS

A4 SIZE

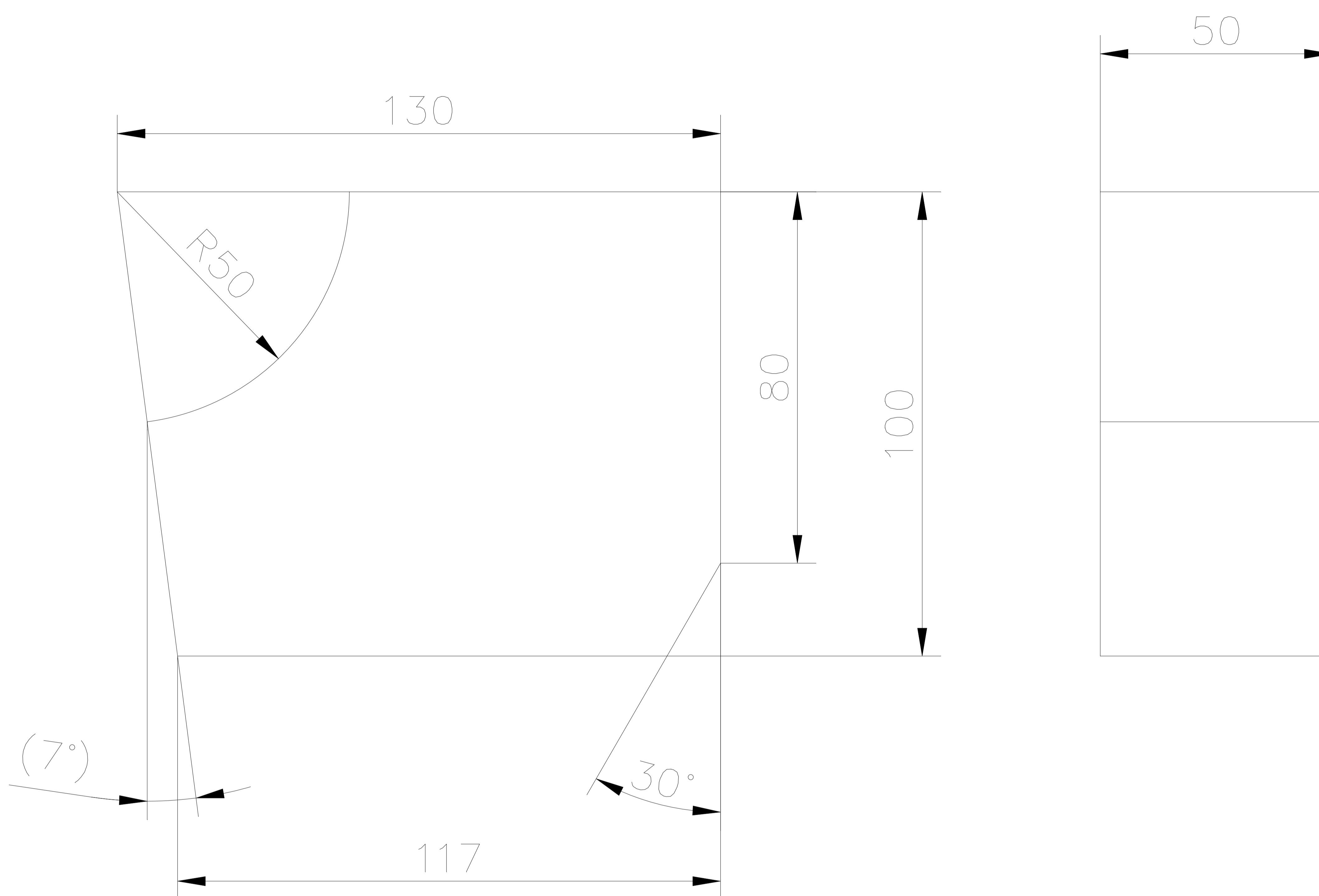
FIRST ANGLE PROJECTION

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

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS No./ C.B.O.M.- NO.		STATUS OF DRG U	
		CHECKED			CHECKED	9-10742-58000			
ZONE			ZONE			AGREED DEPT	NAME	SIGN	DATE
						WT	H. VERMA	sd/-	28.07.12

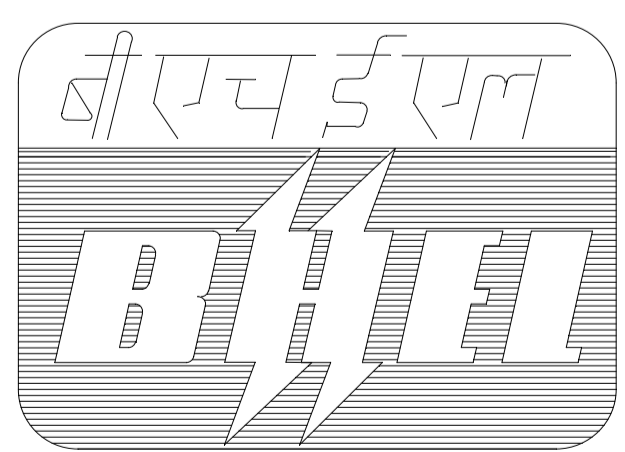
GRADE OF UNTOL.DIM M/CG. - AA0230208 m WELDING-CLASS 'B' OF AA0621104 GAS CUTTING-TABLE 3 OF AA0621101

50/ ALL OVER EXCEPT OTHERWISE STATED



TECHNICAL REQUIREMENT: -

1. IDENTIFICATION ACCORDING TO HW 0400397

Inventory No.	DEPT STE	SCALE 1:2	WEIGHT (KG) 4.1	REF. TO ASSY. DRG. 9-10742-58000	ITEM No. 239	NO. OF ITEMS —
	CODE 4011					
Sign & Date	 BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR	DRN	NAME	SIGN	DATE	NO. OF VAR
		CHD	POONAM	sd/-	1.12.2011	
APPD	DINESH	sd/-	2.12.2011			
Ref. Drawing No>	DSPPG-0127049	TIN NO.	PSK046L695	APPD	D.K.RAY	sd/-
TITLE :			CARD CODE	DRAWING NO. 4-10742-58239		
RIB			SHEET No. 01 No. OF SHEETS 01			

A4 SIZE

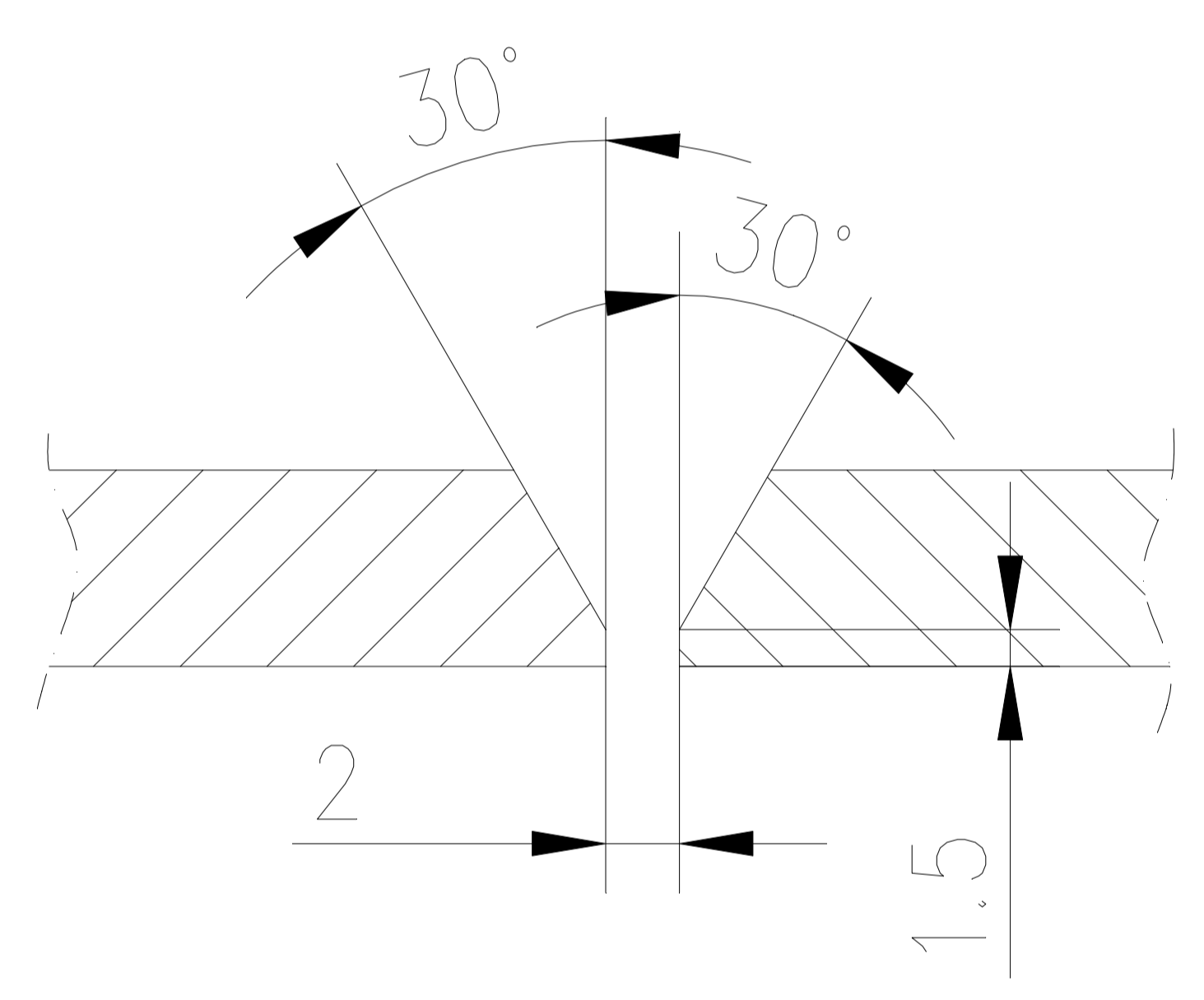
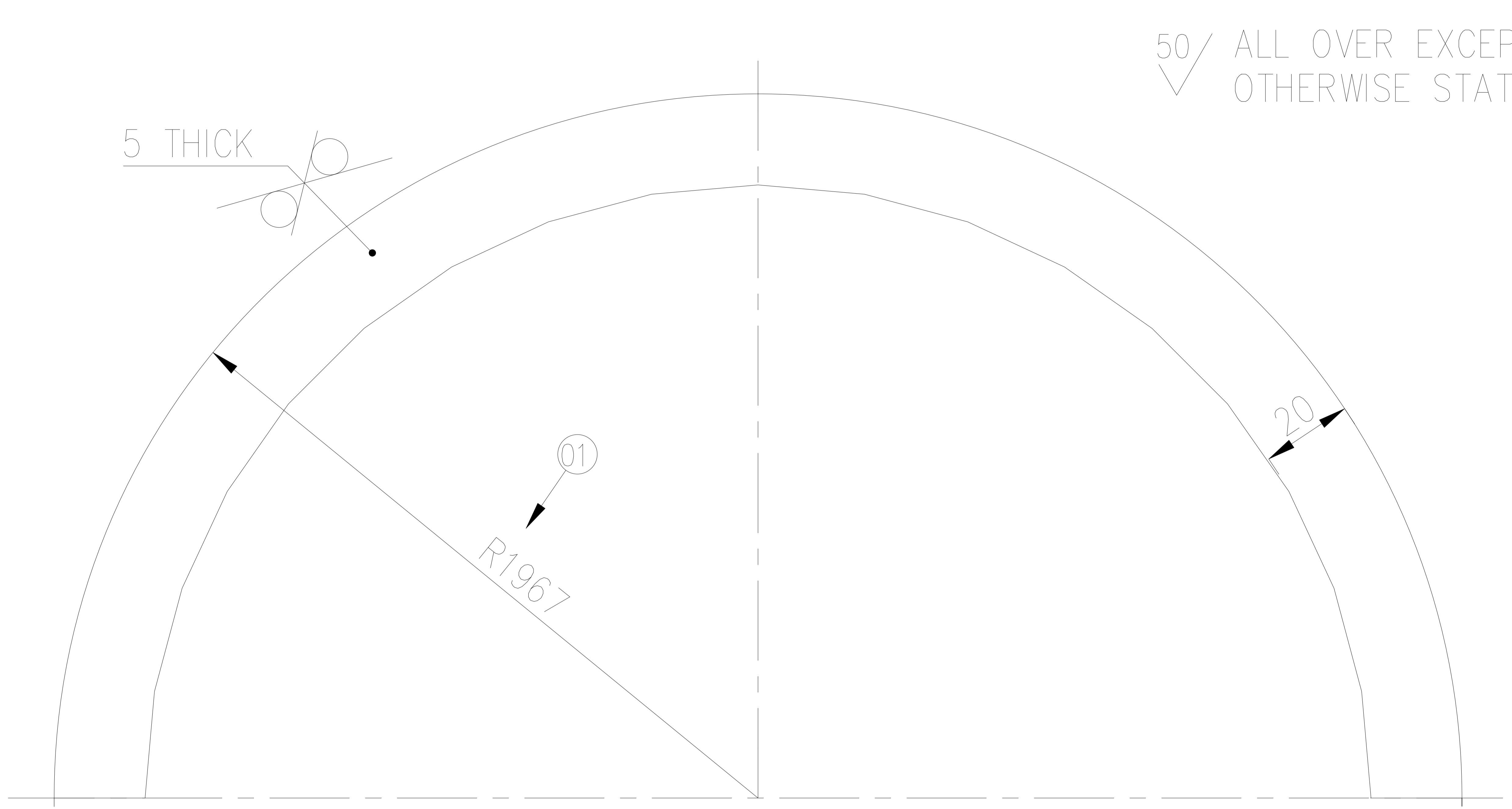
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FIRST ANGLE PROJECTION

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

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 WT	NAME H.VERMA	SIGN SD/-	DATE 28.7.12
GRADE OF UNTOL.DIM M/CG. C/M/A -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.

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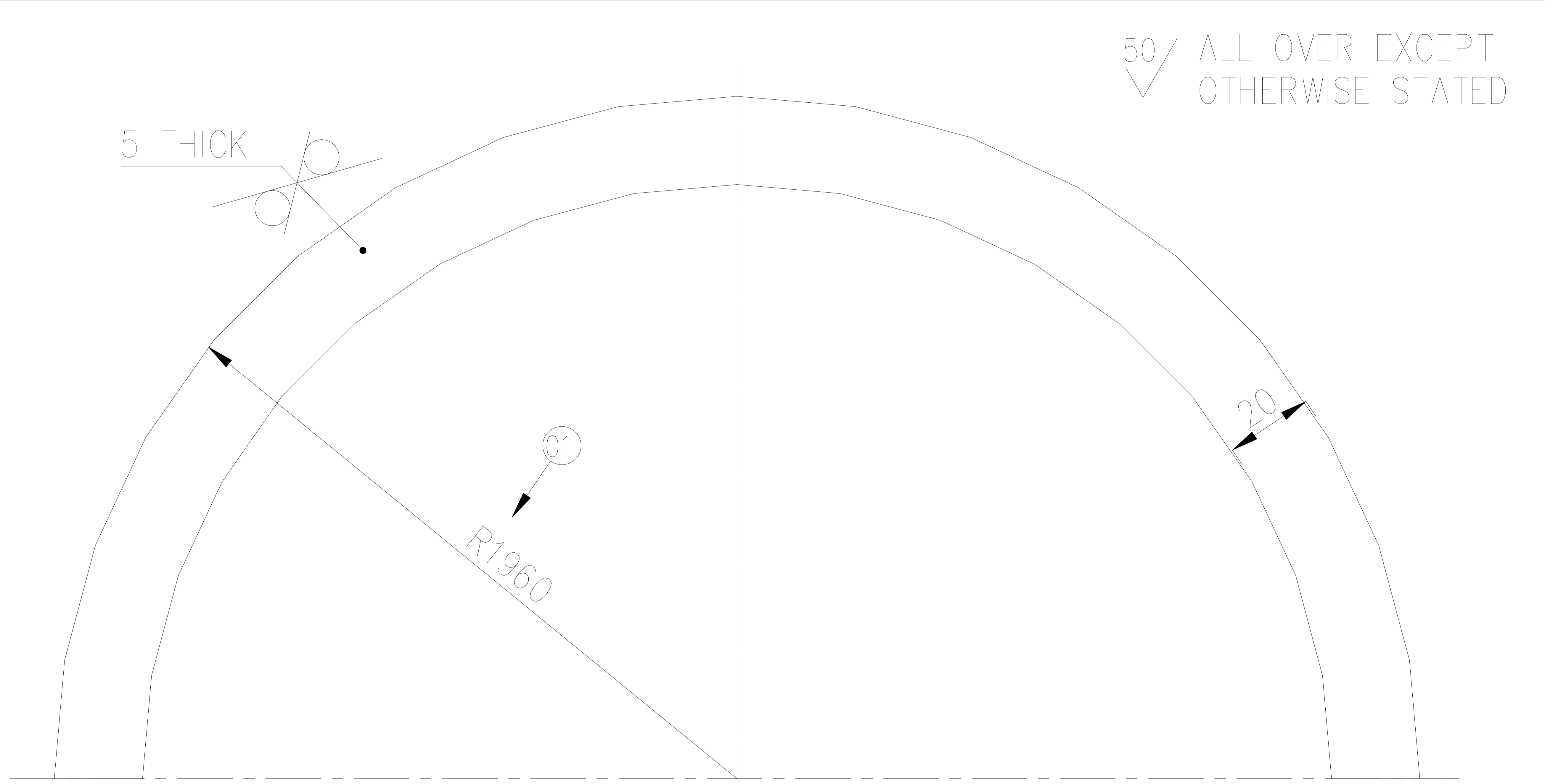
Inventory No.	DEPT STE		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS	
	CODE 4011		NTS	4.82	9-10742-58000	253	—	
Sign & Date	BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR			DRN	NAME	SIGN	DATE	NO. OF VAR
				CHD	DINESH	SD/-	27.7.12	
Ref. Drawing No >				APPD	D.K. RAY	SD/-	6.08.12	
TITLE :				CARD CODE	DRAWING NO.			
BACKING PLATE					4 10742 58253		—	
					SHEET No. 01		No. OF SHEETS 01	

A4 SIZE

FIRST ANGLE PROJECTION

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

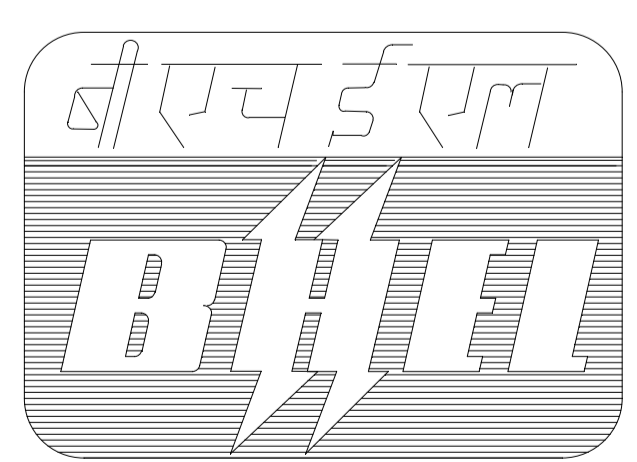
REV	DATE	ALTERED	REV	DATE	ALTERED	MONIKA	GMS No./ C.B.O.M.- NO. 91074258000	STATUS OF DRG U		
		CHECKED	01	05.06.15	CHECKED	DINESH				
ZONE			ZONE	AS PER C/A NO. STE-15-F0199.			AGREED DEPT WT	NAME H.VERMA	SIGN SD/-	DATE 28.7.12
GRADE OF UNTOL.DIM M/CG. C/M/A -AA0230208			WELDING A/B/C/D AA0621104		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

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

A4 SIZE

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Ref.Drawing No>

Sign & Date