

**TERMS & CONDITIONS FOR PRE-FAB. M/C & FAB. ONLY OF PIVOT RING, INLET PIPE ETC.**

The tender documents can be downloaded from our web site [www.bhel.com](http://www.bhel.com) or [www.bhelhwr.co.in](http://www.bhelhwr.co.in). Before submitting the tender, the bidders are required to go through the details mentioned below. Intending indigenous bidder may remit **Tender Fee of Rs. 2,000.00** against the tender, if documents (in hard copies) are required from BHEL. Bidder requiring tender documents in hard copies should remit currency in the form of Cash (as permissible under Income Tax Act) / Pay Order / Demand draft. **Earnest Money Deposit (EMD) of Rs. 200,000.00 is required to be submitted by the vendors against this tender. Earnest Money Deposit (EMD) is not submitted along with offer, then the offer may be rejected.**

**This tender enquiry is for domestic/indigenous vendors only.**

Please submit Tender Fee (if required) in an envelope super-scribed with bold letters. Tender Fee (if required) is to be submitted with Part-I.

**The date for opening of tender shall be 21.10.2021.** Tenders will be received up to **1.45 P.M.** on **21.10.2021** and opened on the same day at **2.00 P.M.** in the Tender Room. **Please note that tender received after due date & time (1.45 PM on 21.10.2021) will not be opened.** BHEL will not be responsible for any type of postal / courier delay / incomplete information from vendor.

Bids shall be opened at 2.00 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company for the specific tender no. attending the bid opening.

**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.**

- SCOPE OF WORK:** -This Enquiry is for PRE-FAB. M/C & FAB. only of PIVOT RING, INLET PIPE, NUT GUARD & OUTLET PIPE TO DISCHARGE VALVE with COMBINED (BHEL+PARTY) Material as per drg., QP & other specifications.

Sl. No.	Item Description	Drg. No.	Qty.
1	PIVOT RING(QUADRANTS)	0203012020400	12 Nos.
2	PIVOT RING(IN QUADRANTS)	0203012150400	4 Nos.
3	INLET PIPE	0212042010200	3 Nos.
4	INLET PIPE	0212042150200	4 Nos.
5	NUT GUARD (MOTOR END)	1205011840400	4 Nos.
6	NUT GUARD (MOTOR END)	1205012020300	3 Nos.
7	OUTLET PIPE TO DISCHARGE VALVE	1212052010100	3 Nos.
8	OUTLET PIPE TO DISCHARGE VALVE	1212052150100	4 Nos.

\* FINIAL S.R. IS IN SCOPE OF BHEL.

**PIVOT RING, INLET PIPE, NUT GUARD & OUTLET PIPE TO DISCHARGE VALVE: -**

- I) FOR ITEM NO.-1 DRG. NO.02030120204, ITEM NO.-1, 5 & 8 WILL BE PROVIDED BY BHEL  
 II) FOR ITEM NO.-1 DRG. NO.02030120204, ASSLY. & WELDING OF ITEM NO.-9 (INCLUDING RAW MATERIAL) WILL BE DONE AT BHEL WORKS.  
 III) FOR ITEM NO.-2 DRG. NO.-02030121504 ITEM NO.-1, 5 & 8 WILL BE PROVIDED BY BHEL  
 IV) FOR ITEM NO.-2 DRG. NO.02030121504, ASSLY. & WELDING OF ITEM NO.-9 (INCLUDING RAW MATERIAL) WILL BE DONE AT BHEL WORKS.  
 V) FOR ITEM NO.-3 DRG. NO.-02120420102 ITEM NO.-1,3, 6, 8, 9 & 13 WILL BE PROVIDED BY BHEL.  
 VI) FOR ITEM NO.-4 DRG. NO.-02120421502 ITEM NO.-1, 6, 8, 9 & 13 WILL BE PROVIDED BY BHEL.  
 VII) FOR ITEM NO.-5 DRG. NO.-12050118404 ITEM NO.-6 WILL BE PROVIDED BY BHEL.  
 VIII) FOR ITEM NO.-6 DRG. NO.-12050120203 ITEM NO.-6 WILL BE PROVIDED BY BHEL.  
 IX) FOR ITEM NO.-7 DRG. NO.-12120520101 ITEM NO.-2, 3, 4 & 7 WILL BE PROVIDED BY BHEL.  
 X) FOR ITEM NO.-8 DRG. NO.-12120521501 ITEM NO.-2, 3, 4 & 7 WILL BE PROVIDED BY BHEL.  
 XI) FOR ITEM NO.-1 DRG. NO.02030120204, ITEM NO- 10&12 ARE NOT IN SCOPE OF VENDOR.  
 XII)FOR ITEM NO.-2 DRG. NO.02030121504, ITEM NO- 10 IS NOT IN SCOPE OF VENDOR.

- **TOTAL LOAD FOR THE Enquiry (Approximately) = 203.290 MT**
- The rate (s) should be quoted in Rupees/Kg. Common rates for all the items covered in this particular enquiry to be quoted.
- Only BHEL/LLOYD approved qualified welders/machinist must be employed on the job.
- Only BHEL approved Brands of Electrodes / consumables/Tools to be used.
- Any assembly, welding & NDT work as per drg/QP, if reqd. after SR/SB including customer clearance shall be done by supplier 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.

**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: -**

The offer is to be submitted in **two parts.**

- 3.1 The tenders shall be submitted in **two parts** in separate sub-envelopes clearly super scribing type of bid, tender no., due date and the name of vendor with full contact details.

**Part I** – Tender fee (if hard copy insisted from BHEL), Pre qualifying conditions (PQR), Techno Commercial Bid (It should be the copy of Price Bid without the price part) along with the filled in, signed and stamped annexures uploaded along with the Tender Document.

**Part II** – Price Bid.

Part I –

- A. Will be opened on the date and time specified in the tender notice in the presence of those vendors who wish to attend.
- B. Will cover the reply of all points of the enquiry except prices in sealed envelop superscribing on the envelop TECHNO-COMMERCIAL OFFER, the enquiry reference number and date of opening etc.

Part II - Price Bids along with supplementary price bids, if necessary, will be opened at a later date of only those bidders whose PQR and Techno Commercial bid will be found acceptable. The price bid is to be submitted in a format as per Annexure-A duly signed by the authorised person of the firm with rubber stamp in the space provided.

- 3.2 Part-II will comprise of price bid in separate sealed envelop super-scribing PRICE-BID, the enquiry reference number and date of opening etc.
- 3.3 All the sub-envelopes (Part-I & Part- II) to be put in a single covering envelope Indicating Tender no., due date and the name of vendor, e-mail id, with full contact details. Offer should be complete in all respect (i.e. Part-I & Part-II).
- 3.4 Both the sealed envelops (Part-I & Part-II) should be placed together in a single envelop duly sealed super scribing on the envelop "TWO PART BID" with enquiry reference number and date of opening of tender. BHEL will not be responsible for any type of delay in receipt of the tender.
- 3.5 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	PIVOT RING(QUADRANTS)	<b>0203012020400</b>	12 Nos.	Within 60 days from last BHEL material sent
2	PIVOT RING(IN QUADRANTS)	<b>0203012150400</b>	4 Nos.	Within 60 days from last BHEL material sent
3	INLET PIPE	<b>0212042010200</b>	3 Nos.	Within 60 days from last BHEL material sent
4	INLET PIPE	<b>0212042150200</b>	4 Nos.	Within 60 days from last BHEL material sent
5	NUT GUARD (MOTOR END)	<b>1205011840400</b>	4 Nos.	Within 60 days from last BHEL material sent
6	NUT GUARD (MOTOR END)	<b>1205012020300</b>	3 Nos.	Within 60 days from last BHEL material sent
7	OUTLET PIPE TO DISCHARGE VALVE	<b>1212052010100</b>	3 Nos.	Within 60 days from last BHEL material sent
8	OUTLET PIPE TO DISCHARGE VALVE	<b>1212052150100</b>	4 Nos.	Within 60 days from last BHEL material sent

**6. 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. (excluding NPC) 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.
- Ordering shall be done on BHEL Haridwar agreed / approved sub-contractors only.
- Inspection by BHEL/BHEL nominated inspection agency as per drawing /Standard and quality plan requirements.
- All party material to be procured from BHEL, Haridwar approved sources only.
- Quality plan no. QP/QA/212022 rev 00 dated 24.09.2021 is attached, which is to be followed.
- Remote inspection shall be preferred in place of physical inspection by BHEL/BHEL nominated inspection agency (Due to COVID 19 situation). Remote inspection guidelines are attached. Sub-contractors to offer both remote inspection and physical inspection. BHEL reserve the right to select anyone.
- Attached log sheet no. 02030120204LS & 02030121504LS is to be filled by sub-contractor.

**7. GUARANTEE CERTIFICATE: -**

The vendor shall warrant that the supplied fabricated assemblies 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.

**8. PAYMENT TERMS: -**

- 8.1 90% after acceptance & final clearance of SRIV.10% after FTS and final accountal of material.
- 8.2 No packing and forwarding charges will be paid extra.
- 8.3 In case of rejection, total cost of material will be recovered in case of BHEL Material and no labour cost will be paid.

**9. 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.

**10. GST: -**

As applicable against documentary proof. Mention HSN/SAC code & applicable %age of GST.

- 10.1 The bidder to specify in their offer (part 1 bid) the category of their registration under GST like Registered, Unregistered and composite dealer.
- 10.2 The provisional GST registration number of Bharat Heavy Electrical Ltd, Heavy Electricals Equipment Plant, Ranipur, Electricals Equipment Plant, Ranipur, Haridwar is '05AAACB4146P1ZL' with state Code as '05' and State Name as 'Uttarakhand'.

- 10.3 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.
- 10.4 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.
- 10.5 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.
- 10.6 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 account.
- 10.7 In the event of any change in the status of vendor after 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.
- 10.8 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.

**11. EXTRA/LESS RATES: -**

- In case, extra/less work is required due to change in Drawing / any deviation in fabricated weight at a later stage (duly verified by our Engineering Dept.), extra charges may be paid/deducted and purchase order will be amended.
- In case extra/less work is required due to change in Drawing/ technology / extra joints (owing to non-availability of required size of raw material) / defects like laminations if any on BHEL supplied plates etc. / any deviation in fabricated weight (duly verified by WT), extra/less charges will be paid and purchase order may be amended accordingly.
- Amendment due to changes in drg. /CBOM weight will be applicable only if changes are made before supply of material or changes which are under process is provided to vendor in writing by Engg. or AIX before supply of material by vendor.

**12. Reverse Auction: -**

“BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://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.”

Following are some guidelines:

- Start price for RA to be L1 of e-bid/ sealed envelope price bids.
- 2. Minimum two techno-commercially qualified bidders are required to conduct RA.

- Wherever six or more techno-commercially 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 techno-commercially qualified bidders is odd (e.g. if 7 bids are technically qualified, then RA will be conducted amongst lowest four bidders). However, there will be no elimination of bidders who are MSE or qualifying under PPP-MII Order, 2017.

**For detailed terms and conditions of RA guidelines, kindly refer [www.bhel.com](http://www.bhel.com).**

**All vendors will be assessed on total cost to BHEL basis that includes freight, taxes, ITC etc.**

**13. Following MSE conditions shall be followed: -**

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 (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). 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.

\* 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: -

- a. Valid NSIC Certificate or
- b. Entrepreneurs' Memorandum part II (EM II) certificate (valid based on deemed validity of 5 years) or
- c. EM II certificate along with attested copy of CA Certificate (as per prescribed format at annexure 1) applicable for the relevant financial year (latest audited), where the deemed validity of EM II is over. However, credentials of all MSE supplier will be verified before advancing the intended benefits.

\* MSE vendors 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.

\* In case techno-commercial accepted vendors include MSE source and their prices (based on landed cost to BHEL) are within the price band of 15% w.r.t. L-1 vendor, then BHEL can offer 25% of quantity of respective item (rounded off to nearest number) to MSE vendors at L-1 price and in case, more than one MSE vendor is in 15 % band and the same is accepted by more than one MSE vendors then 25% quantities of respective items will be considered for ordering on proportionate basis amongst MSE vendors.

\* While distributing the 25% quantity amongst MSE vendors the decimal points in quantity shall be ignored for all the vendors except the L-1 amongst MSE vendors. Balance quantity after allocating the quantity to other MSE vendors ignoring the quantities in decimal, shall be given to L-1 (amongst MSE) vendor. However, if there are more than one MSE vendor at the same price level than preference for additional quantities due to ignoring off the decimal (as mentioned above)

shall be given to the vendor offering favourable terms to BHEL and if the conditions offered are also same then preference will be given to the vendor having high SPR rating.

\* In case there are more than one MSE vendors (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 vendor with lowest landed cost.

\* In case there are more than one MSE vendors (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 favourable terms in the bid and in case terms are also same, the vendor with high SPR rating shall be given preference.

- 14. PRICE VARIATION CLAUSE:** - No PVC is applicable for this enquiry.
- 15. Bank Guarantee/Indemnity Bond:** - 25% Bank Guarantee and 75% Indemnity Bond for the value of materials to be given by vendor for free issue materials. Material value will be calculated on PPMIV/Challan value basis.
- 16. GENERAL INSTRUCTIONS:** -
- 16.1 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.
- 16.2 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.
- 16.3 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.
- 16.4 Subsequent ordering shall be done based on performance and execution of orders in time as per PO. Delivery.
- 16.5 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.
- 16.6 Vendor must fill in the rate **per Kg.** in Annexure-A and put in the Price Bid envelop.
- 16.7 EMD submission may be waived for **Central/State-PSUs/Government** departments.
- 16.8 **MSE suppliers** are exempted for submission of EMD & Tender Fee.
- 16.9 As per the Office Memorandum F.No. 1(2)(1)/2016-MA dated 09.02.2017 issued from the office of Development Commissioner (micro, small & medium enterprises), "Traders and agents should not be allowed to avail the benefits extended under the pp policy." 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.
- 16.10 Approved Vendors registered in PMD AF-082 in HEEP, BHEL Ranipur are exempted from submission of EMD. Vendors may claim the same in their offers.**
- 16.11 Open tender is hoisted on the websites and no hard copy of document is provided by BHEL, no tender fee shall be insisted upon from the bidders.
- 16.12 Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.
- 16.13 Please refer general instructions and standard terms & conditions (GISTC) for bidding against tender enquiry (Version December-2020, Rev: 05).the bidder/vendor must ensure compliance of these GISTC (Version December-2020, Rev: 05).

- 16.14 Unregistered vendors may please visit our site [www.bhel.com](http://www.bhel.com) for filing up the Supplier registration Form against PMD No. AF082.
- 16.15 **Documents submitted with the offer/bid by the bidder shall be signed and stamped in each page by authorized representative of the bidder.**
- 16.16 **PQR uploaded with the tender document 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 Annexure may be ignored.**
- 16.17 The evaluation currency shall be INR (Indian Rupee).
- 16.18 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.
- 16.19 For this procurement, Public procurement (preference to Make in India), Order 2017 dated 04.06.2020 shall be applicable.  
 For this procurement, the local content to categorize a supplier as 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 the nodal ministry, changing the definition of local content for the items of NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of part-II bids against this NIT.  
 As defined under public procurement (Make in INDIA) notification dated 04.06.2020, only the 'Class-I local supplier' and 'Class-II local supplier' are eligible to bid against this enquiry. Hence bids of non-local supplier (if any) will not be considered.  
 Accordingly, the 'Class-I local supplier' / 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate the 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' and shall give details of the location(s) at which the local value addition is made.  
 Procurements where the Estimated value to be procured is less than Rs. 5 lakhs shall be exempted from Public Procurement (Preference to Make in India) Order 2017 dated 04.06.2020.
- 16.20 Vendor Contract clause regarding GST ITC and provision for E-Invoices:
- (i) E-Invoicing under GST is being implemented w.e.f. 01.10.2020 for all the taxable persons having turnover more than Rs. 100 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.

- 16.21 **Bidder to necessarily submit duly filled in, signed and stamped Annexures** (attached alongwith the tender document).
- 16.22 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.
- 16.23 The bidders against open tender will necessarily have to obtain class – III DSCs. Procedure for application is available on [www.bhel.com](http://www.bhel.com).
- 16.24 **RECTIFICATION:** - Any defect (noticed at Shop) arising out of the fabrication/machining 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.

**17. Transportation: -**

BHEL will send raw material to vendor works on freight paid basis and vendor to deliver fabricated/machined 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 shall be given on the finished weight.

**19. OPTION CLAUSE:** The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

**20. Integrity Pact:** Supplier must submit Integrity Pact duly signed and stamped along with this offer as per attached annexure.

**21. Load Distribution:**

<b>Load Distribution For Kaleshwaram-1,2,3 &amp;4 and Palamuru-1,2&amp;3</b>									
	<b>ITEM DESCRIPTION</b>	<b>DRG. NO.</b>	<b>TOTAL QTY (NO.)</b>	<b>WEIGHT / PIECE (KG.)</b>	<b>TOTAL WEIGHT (KG.)</b>	<b>L-1 VENDOR DETAILS</b>		<b>L-2 VENDOR DETAILS</b>	
<b>Sl. No.</b>	<b>Item Description</b>					<b>QTY. (NO.)</b>	<b>TOTAL WEIGHT (KG.)</b>	<b>QTY. (NO.)</b>	<b>TOTAL WEIGHT (KG.)</b>
1	PIVOT RING(QUADRANTS)	0203012020400	12	2275	27300	8	18200	4	9100
2	PIVOT RING(IN QUADRANTS)	0203012150400	4	11050	44200	3	33150	1	11050
3	INLET PIPE	0212042010200	3	7010	21030	2	14020	1	7010
4	INLET PIPE	0212042150200	4	8850	35400	3	26550	1	8850
5	NUT GUARD (MOTOR END)	1205011840400	4	400	1600	3	1200	1	400
6	NUT GUARD (MOTOR END)	1205012020300	3	385	1155	2	770	1	385
7	OUTLET PIPE TO DISCHARGE VALVE	1212052010100	3	9015	27045	2	18030	1	9015
8	OUTLET PIPE TO DISCHARGE VALVE	1212052150100	4	11390	45560	3	34170	1	11390
					<b>203290</b>		<b>146090</b>		<b>57200</b>

**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.**

Amendments/Corrigendum, if any, will be hosted on our web site 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.

**In view of Covid-19 and present situation the Tender Document, 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.**

Tenders will be received in Tender Box kept in Tender Room and should be addressed to:

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

Unregistered vendors may please visit our site [www.bhel.com](http://www.bhel.com) for filing up the Supplier Registration Form.

**KINDLY READ “TERMS & CONDITIONS FOR PRE-FAB. M/C & FAB. ONLY OF “PIVOT RING, INLET PIPE, NUT GUARD & OUTLET PIPE TO DISCHARGE VALVE”**. QUOTATION NOT IN ACCORDANCE WITH THE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED. Kindly submit Checklist of T&C of this enquiry attached with tender document.

**Annexure - A****PRE-FAB. M/C & FAB. ONLY OF 'PIVOT RING, INLET PIPE, NUT GUARD & OUTLET PIPE TO DISCHARGE VALVE**

OpenTender Enquiry No.: X/6620/2021/0087/C/1

<b>DESCRIPTION OF ITEMS</b>	<b>TOTAL QTY. (MT)</b>	<b>L1 &amp; L2 LOAD DISTRIBUTION approx. (MT)</b>	<b>RATE (Rs./Kg)</b>	
			<b>BM</b>	<b>PM</b>
<b>PIVOT RING INLET PIPE NUT GUARD OUTLET PIPE TO DISCHARGE VALVE</b>	<b>203.290</b>	<b>L-1= 146090 L-2= 57200</b>		

Authorised Signature:

(with date &amp; seal of company)

Name of Supplier:

**TERMS AND CONDITIONS FOR Enquiry No.X/6620/2021/0087/C/1**

SL.	TERMS	VENDOR'S ACCEPTANCE/ REMARKS
1	Scope of Work: - PRE-FAB. M/C & FAB. is to be carried out by the vendor as per Drawing/Standard, QP and Technical requirements. Technical specification and conditions of supply on one/multiple vendors.	
2	Quotation is valid for a minimum period of 90 days from date of opening of enquiry.	
3	Submission of offers (clause no. 3.1 to 3.5 of Terms and Conditions)	
4	Quoted rates are on F.O.R. sub-contract store, HEEP, Haridwar basis.	
5	Delivery schedule:Item wise as per clause 5 of T & C of enquiry	
6	Inspection shall be done as per clause no. 6 of Terms and Conditions of Enquiry	
7	Guarantee Certificate shall be valid for 18 months from receipt of material in BHEL.	
8	90% after acceptance & final clearance of SRIV.10% after FTS and final account of material.	
9	LD clause is applicable@0.5% per week or part thereof with a maximum limit of 10% of the delayed portion of the PO.	
10	GST shall be applicable against documentary proof. Input Tax Credit shall be applicable and BHEL can claim benefit as per clause 10. of T & C of enquiry.	
11	Amendments of Extra/Less rates as per clause no. 11 of Terms and Conditions of Enquiry.	
12	We accept Reverse Auction(RA) clause as per standard policy of BHEL.	
13	We are MSME vendor and have submit CA certificate based on latest audited year (Non MSME vendor to write NA)	
14	Price Variation clause (PVC) is not applicable.	
15	Bank Guarantee/Indemnity Bond: 25% BG & 75% Indemnity bond	
16	We have read clause no. 16 of terms and conditions of Enquiry and confirm to abide the same.(Clause 16.1 to 16.24)	
17	Transportation:Confirm acceptance of clause 17 of T & C.Manufactured items shall be despatched by BHEL approved transporter only and Insurance shall be borne by BHEL.	
18	Scrap :Confirm acceptance of Clause 18 of T & C of Enq.	
19	Option Clause: Confirm acceptance of clause 19 of T&C of enquiry.	
20	Signed and stamped Integrity pact is attached alongwith	
21	We accept Risk Purchase clause as per standard policy of BHEL.	
22	We have submitted Make in India certificate (duly filled and signed as per Annexure-II).	
23	We accept Load Distribution clause 21 of T & C of Enq..	
23	<b>Rates have been quoted in indian Rupees on per Kilo Gram basis.</b>	

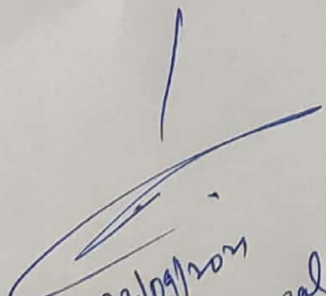
Note: BHEL reserves the right to reject any or all the offers (on techno-commercial ground) without assigning any reason thereof.

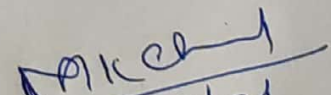
**(Vendor's signature with Stamp)**

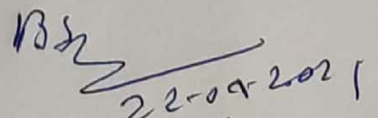
PQR

Item : Fabricated Assemblies with UT/RT  
PRE-QUALIFICATION REQUIREMENT

01.00	TECHNICAL REQUIREMENT	Required	Vendor's Offer
01.01	Vendors should have experience of fabricating (cutting/bending/assembly/welding/pre-fabrication machining) and supplying of <b>atleast 1 no. Fabricated assembly having requiremnt of UT/RT and weight atleast 10 Tons and above in last 7 years from the date of enquiry.</b>	Vendor to Comply & submit suitable evidence	
01.02	<b>Facilities Required:</b> i) Lifting facility and capacity at vendor works should EOT crane 15 Tons and above. ii) Vendor must have levelled bed plate size : Length= 5,000mm and Breadth=5,500mm and above to fabricate the job (Note: Concrete floor not acceptable). (iii) Vendor must have suitable WPS/PQR and qualified welders for welding approved by Third Party and submit documentary evidence with offer. (iv) Vendor must have cutting facility to cut plate of thickness 100 mm and above. (v) Vendor must have rolling bending facility of plate thickness 50mm and above at width of 2500mm and above	Vendor to Comply & submit suitable evidence including technical specifications, technical brochure, photographs etc. of the facilities.	
01.03	Vendor to furnish certificate against clause 01.01 from the customer / company or end user duly confirming that <b>fabricated assembly having requiremnt of UT/RT and weight 10 Tons and above</b> was supplied and used for Hydro Pump or turbine/power plant/capital goods/infrastructure application OR Vendor to submit documentary evidence as per clause 1.03.	Vendor to Comply & submit suitable documents	
01.04	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 <b>fabricated assembly having requiremnt of UT/RT and weight 10 Tons and above.</b>	Vendor to Comply & submit suitable documents	
01.05	All PQR documents are to be stamped and signed 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 Comply & submit suitable documents	
01.06	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	
<b>NOTE: PQR is not restrictve</b>			

  
 22/09/2021  
 Ravi Deshpande  
 [ Dy. Manager (WTX) ]

  
 22/09/21

  
 22-09-2021  
 (BS Arora)  
 261-47



HARIDWAR

# LOGSHEET MANUFACTURING HEEP-HARIDWAR

## DIMENSIONAL INSPECTION REPORT

**PROJECT : PRLIS STAGE - 4 (5 X145 MW)**

TYPE/RATING: 5 X145 MW

**WORK ORDER No.****DESCRIPTION : PIVOT RING**

CONTRACTOR : MEIL, HYDERABAD

**DRAWING NO. 02030120204**  
(BHOPAL REF. DRG. NO. 02030118404)**LOGSHEET NO. 02030120204 LS****ASSY. DRG.- 02030121301**

OPN./ SL. No.	DRG. SIZE	ACTUAL SIZE	REMARKS
I/D (D1)	Ø4532 (+0.5)		
O/D (D2)	Ø5708 (-1.0)		
I/D (D3)	Ø5105 (-0.3)		SEAL RETAINER FITMENT
O/D (D4)	Ø5335 (+0.3)		SEAL RETAINER FITMENT
WIDTH (W1)	22.5 (+0.5)		
DEPTH (T1)	12.5 (+/-0.1)		
Ht. (H1)	15 (+0.1)		
T. Ht. (H2)	329.5 (+/-0.1)		
	20 NOS. EQUISPACED TAPPED HOLES OF M150 X4P ON G.V. PCD5220 ON SLEEVE (IT. 08)		

NOTE: ALL DIMENSIONS ARE IN mm

ISSUING DEPT.	NAME	SIGN	DATE		INSPECTED BY:-
PREPARED BY:-	PS	sd/-	18/08/21		FILLED IN BY :-
CHECKED BY:-	PS	sd/-	18/08/21	REV. DATE	CHECKED BY :-
APPROVED BY:-	DS	sd/-	19/08/21	REV. DATE	APPROVED BY :-



HARIDWAR

# LOGSHEET MANUFACTURING HEEP-HARIDWAR

## DIMENSIONAL INSPECTION REPORT

<b>PROJECT : KALESHWARAM PROJECT LINK-II PACKAGE-II</b> <b>WORK ORDER No.</b>	<b>TYPE/RATING:</b> 4X130 MW SINGLE STAGE VERTICAL PUMP
<b>DESCRIPTION : PIVOT RING</b>	<b>CONTRACTOR : MEIL, HYDRABAD</b>
<b>DRAWING NO. 02030121504</b> (BHOPAL REF. DRG. NO. 02030118404)	<b>LOGSHEET NO. 02030121504 LS</b>
<b>ASSY. DRG.- 02030121501</b>	

OPN./ SL. No.	DRG. SIZE	ACTUAL SIZE	REMARKS
I/D (D1)	Ø5082(+0.5)		
O/D (D2)	Ø6398(-1.0)		
I/D (D3)	Ø 5730(-0.3)		SEAL RETAINER FITMENT
O/D (D4)	Ø 5960 (+0.3)		SEAL RETAINER FITMENT
WIDTH (W1)	22.5 (+0.5)		
DEPTH (T1)	12.5 (+/-0.1)		
Ht. (H1)	15 (+0.1)		
T. Ht. (H2)	329.5 (+/-0.1)		
	20 NOS. EQUISPACED TAPPED HOLES OF M150 X4P ON G.V.PCD 5852.9 ON SLEEVE (IT. 08)		




NOTE: ALL DIMENSIONS ARE IN mm

ISSUING DEPT.	NAME	SIGN	DATE		INSPECTED BY:-
PREPARED BY:-	PS	sd/-	18/08/21		FILLED IN BY :-
CHECKED BY:-	PS	sd/-	18/08/21	REV. DATE	CHECKED BY :-
APPROVED BY:-	DS	sd/-	19/08/21	REV. DATE	APPROVED BY :-

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN				APPLICABILITIES TO				
BHEL Haridwar approved sub-contractors only		ITEM	PIVOT RING(QUADRANTS), INLET PIPE, NUT GUARD (MOTOR END), OUTLET PIPE TO DISCHARGE VALVE				Q.P. NO	QP/QA/212022	PROJECT	
		WO. No.	20269T20201, 20271T20201, 20273T20201, 20275T20201, 20277T20201, 20279T20201, 20281T20201				DATE	24.09.2021		
							REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR
							PAGE NO.	Page 1 of 2		20210087 rev 01 dated 24.09.21

S. No.	COMPONENT OPERATION	CHARACTERISTIC CHECKED	CATEGORY	TYPE/METHOD OF CHECKED	QUANT-UM 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	Review of Supplier Test Certificate of Material for all the party materials	Major	Visual inspection	100%	As per drg./ Standard	As per drg./ Standard	TC	✓	P	V	V	a) 'V' by customer for 'pivot ring', 'inlet pipe' & 'outlet pipe to discharge valve' (b) For BHEL material, transfer of identification to be ensured (c) All party material to be procured with following conditions - In all the cases a mill test certificate correlatable with the component for verification of conformance of the material as per the requirement is essential.




<u>INPROCESS-INSPECTION</u>													
2.0	WPS, PQR & WPQ Qualification	Scrutinizing	Major	Record check	100%	ASME SEC IX	ASME SEC IX	Test Report	✓	P	V	-	WPS/PQR/WPQ approved by BHEL /BHEL approved agency shall be used.
2.1	Welding Operation	i) Visual inspection of welds	Major	Visual	100%	As per drg./ Standard	As per drg./ Standard	Obs. sheet	✓	P	V	-	1) BHEL approved electrode shall be used during welding 2) Qualified welders by BHEL /BHEL approved agency in accordance with ASME Section IX will be deployed on the job

Manufacturer/ Subcontractor		For BHEL Use	
<b>Legends:</b> 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.		Worked by:  Deepika Singh, SE (QAX)	Checked by:  Sugandh Agrawal, DM (QAX)
		Approved by:  P.K Bansal, AGM (QAX)	

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN				APPLICABILITIES TO	
ITEM		PIVOT RING(QUADRANTS), INLET PIPE, NUT GUARD (MOTOR END), OUTLET PIPE TO DISCHARGE VALVE	Q.P. NO	QP/QA/212022	PROJECT		
WO. No.		20269T20201, 20271T20201, 20273T20201, 20275T20201, 20277T20201, 20279T20201, 20281T20201	DATE	24.09.2021			
			REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR	
			PAGE NO.	Page 2 of 2	Indent	20210087 rev 01	dated 24.09.21

2.3	ii) NDT of weld joints	Major	NDT	As per drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	W	V	1) NDT shall be carried out by ASNT/ISNT Level I/II Qualified Operators 2) NDT consumables shall be procured from BHEL approved sources. 3) 'V' by customer for 'pivot ring'
2.4	Hydraulic pressure test of inlet pipe	Major	Hydraulic Test	As per drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	W	-	
3.0	<b>FINAL INSPECTION</b>											
3.1	Dimensions	Major	Visual & measurement	100%	As per drg./ Standard	As per drg./ Standard	Obs. Sheet/ Logsheets	✓	P	W	V	'V' by customer for 'pivot ring'
3.2	Coating/ conservation (if 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. All requirements of P.O., drawing and standard shall be fulfilled.  
2. BHEL reserves the right for conducting repeat test, if required.

Manufacturer/ Subcontractor		For BHEL Use	
<b>Legends:</b> 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.		Worked by:  Deepika Singh, SE (QAX)	Checked by:  Sugandh Agrawal, DM (QAX)
		Approved by:  P.K Bansal, AGM (QAX)	

**AIX to inform following to sub-contractor in case Remote Inspection along with routine inspection is required (due to covid-19 situation):.**

**Procedure for Remote inspections (Purchased / sub-contracted items)-**

- Vendor will submit remote inspection call similar to routine inspection call (alongwith internal inspection reports, records of calibration of measuring instruments).
- Digital display measuring instruments to be preferred, if available.
- Illumination by minimum 100 Watt bulb is to be done on the job near the location of inspection.
- Remote inspection will start with verification of identification numbers available on the item.
- Remote inspection will be offered by vendor through live videography, and videos, important pictures to be included as records of inspection, which will be submitted to BHEL(QC-Materials).
- The online inspection shall be performed using video call on Lifesize, Webex, WHATSAPP, Microsoft Teams application.
  - a) For **MPI**, first calibration using field indicator will be shown. After that room will be covered for darkness and MPI using Yoke or Prod as per applicable specification-shall be performed on casting. The inspector at the other end will see it through WHATSAPP video call. As MPI is with Fluorescent method, the indication are visible in the dark and can be seen through video call.
  - b) For **UT**, first the calibration of UT machine will be shown to the inspector through video call. After that 02 NO. mobile phones will be used for showing the UT on the job. 01 mobile is used for showing the probe movement and other is used for showing the screen of UT machine for indications.
  - c) The **HARDNESS** on material shall be shown using EQUOTIP HARDNESS TESTER. Before start of testing calibration on standard test block will be shown.
  - d) **DIMENSION & WALL THICKNESS** will be shown on marking table through video call.
  - e) For **MECHANICAL TESTING**, first “0” setting of machines will be shown to the inspector. After that dimension of each sample will be shown. The tensile test and impact tests shall be performed on test sample and inspector will witness the same through video call. After completion of test, all measurement on test samples, as applicable, shall be shown to the inspector on video call.
    - Remote Inspection to be performed on job, should have no difference w.r.t. routine inspection performed in case of personal attendance of inspector.

- In case, interruption / loss of connectivity is reported by BHEL/ UPRVUNL/NTPC/TANGEDCO/MAHAGENCO etc. during inspection, the process will be repeated by the vendor.
- Any clarification raised during remote inspection, will be responded immediately by vendor.

## Certificate

In line with 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, we hereby certify that we M/s Â \_\_\_\_\_(supplier name) are local supplier meeting the requirement of minimum local content (50%) as defined in above orders for the material against Enquiry No.

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

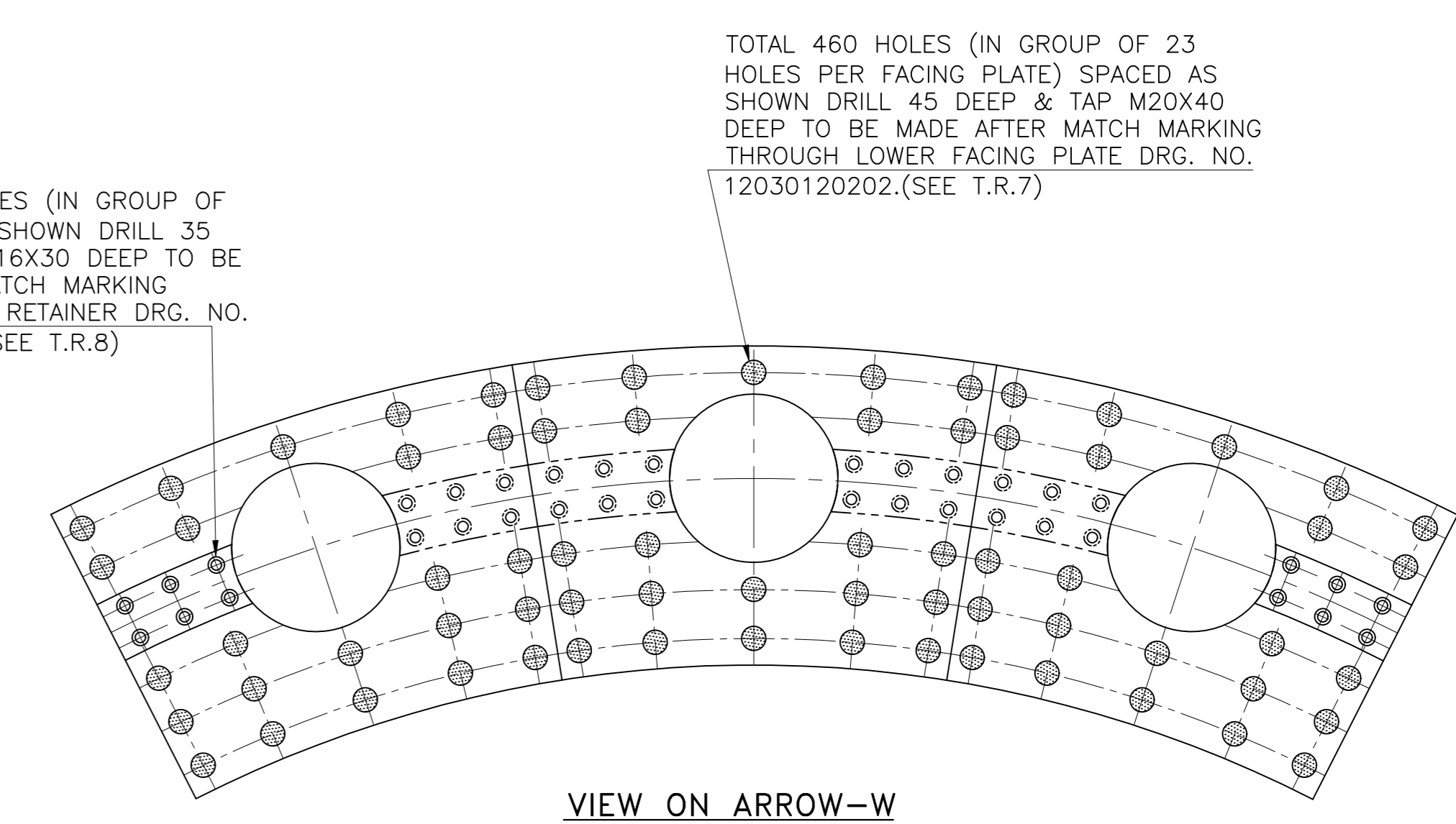
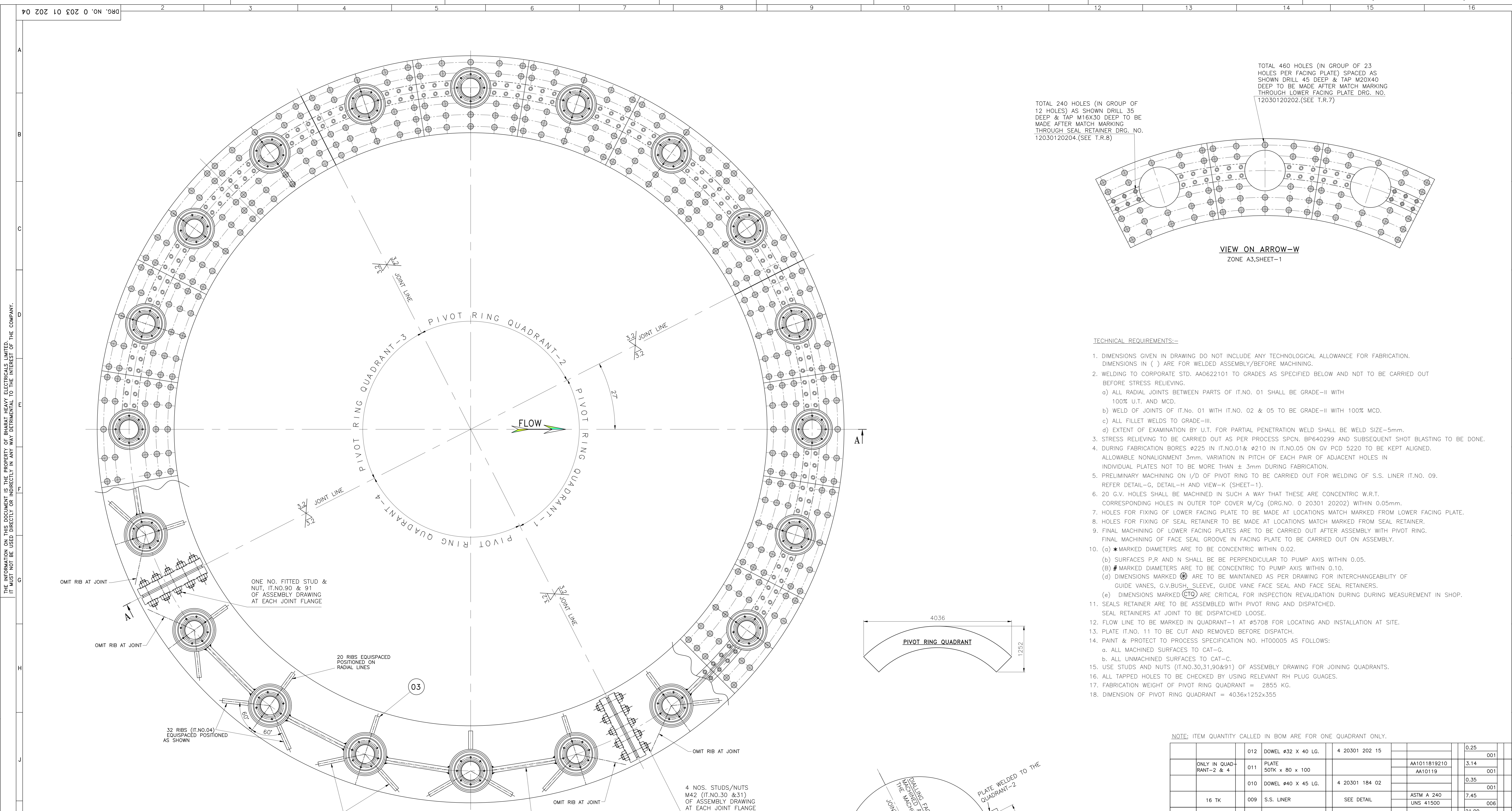
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We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial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

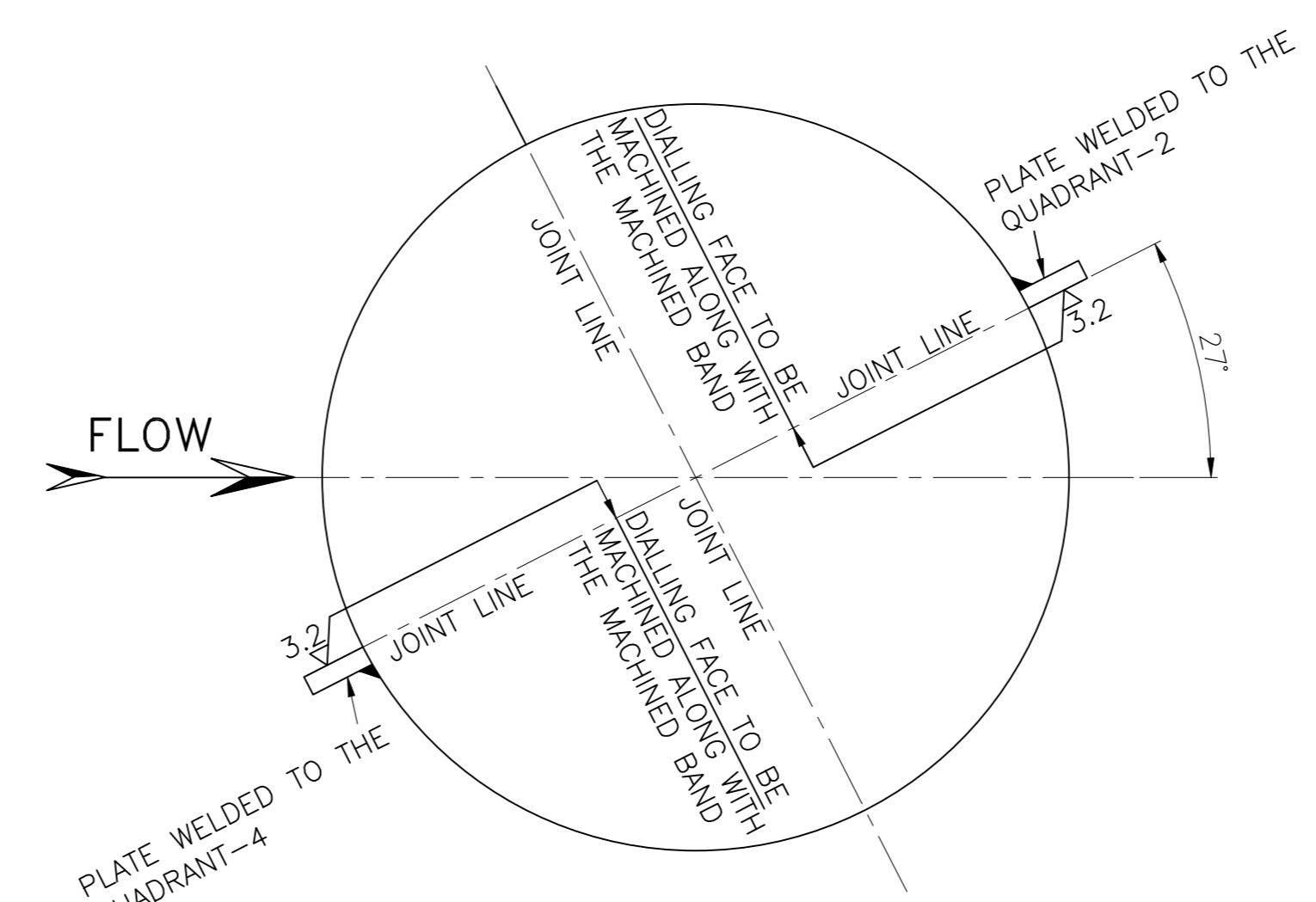
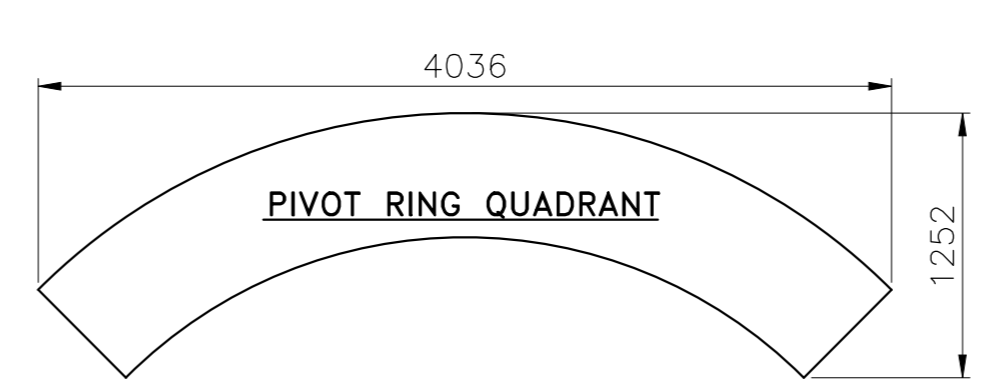
Seal and Signature of Supplier





TECHNICAL REQUIREMENTS:-

- DIMENSIONS GIVEN IN DRAWING DO NOT INCLUDE ANY TECHNOLOGICAL ALLOWANCE FOR FABRICATION. DIMENSIONS IN ( ) ARE FOR WELDED ASSEMBLY/BEFORE MACHINING.
- WELDING TO CORPORATE STD. AAO622101 TO GRADES AS SPECIFIED BELOW AND NDT TO BE CARRIED OUT BEFORE STRESS RELIEVING.
  - ALL RADIAL JOINTS BETWEEN PARTS OF IT.NO. 01 SHALL BE GRADE-II WITH 100% U.T. AND MCD.
  - WELD OF JOINTS OF IT.No. 01 WITH IT.NO. 02 & 05 TO BE GRADE-II WITH 100% MCD.
  - ALL FILLET WELDS TO GRADE-III.
  - EXTENT OF EXAMINATION BY U.T. FOR PARTIAL PENETRATION WELD SHALL BE WELD SIZE-5mm.
- STRESS RELIEVING TO BE CARRIED OUT AS PER PROCESS SPN. BP640299 AND SUBSEQUENT SHOT BLASTING TO BE DONE.
- DURING FABRICATION BORES  $\phi 225$  IN IT.NO.01 &  $\phi 210$  IN IT.NO.05 ON GV PCD 5220 TO BE KEPT ALIGNED. ALLOWABLE NONALIGNMENT 3mm. VARIATION IN PITCH OF EACH PAIR OF ADJACENT HOLES IN INDIVIDUAL PLATES NOT TO BE MORE THAN  $\pm 3$ mm DURING FABRICATION.
- PRELIMINARY MACHINING ON 1/3 OF PIVOT RING TO BE CARRIED OUT FOR WELDING OF S.S. LINER IT.NO. 09. REFER DETAIL-G, DETAIL-H AND VIEW-K (SHEET-1).
- 20 G.V. HOLES SHALL BE MACHINED IN SUCH A WAY THAT THESE ARE CONCENTRIC W.R.T. CORRESPONDING HOLES IN OUTER TOP COVER M/Cg (DRG.NO. 0 20301 20202) WITHIN 0.05mm.
- HOLES FOR FIXING OF LOWER FACING PLATE TO BE MADE AT LOCATIONS MATCH MARKED FROM LOWER FACING PLATE.
- HOLES FOR FIXING OF SEAL RETAINER TO BE MADE AT LOCATIONS MATCH MARKED FROM SEAL RETAINER.
- FINAL MACHINING OF LOWER FACING PLATES ARE TO BE CARRIED OUT AFTER ASSEMBLY WITH PIVOT RING. FINAL MACHINING OF FACE SEAL GROOVE IN FACING PLATE TO BE CARRIED OUT ON ASSEMBLY.
- (a) \*MARKED DIAMETERS ARE TO BE CONCENTRIC WITHIN 0.02.  
(b) SURFACES P,R AND N SHALL BE PERPENDICULAR TO PUMP AXIS WITHIN 0.05.  
(c) # MARKED DIAMETERS ARE TO BE CONCENTRIC TO PUMP AXIS WITHIN 0.10.  
(d) DIMENSIONS MARKED  $\phi$  ARE TO BE MAINTAINED AS PER DRAWING FOR INTERCHANGEABILITY OF GUIDE VANES, G.V.BUSH, SLEEVE, GUIDE VANE FACE SEAL AND FACE SEAL RETAINERS.  
(e) DIMENSIONS MARKED  $\phi$  ARE CRITICAL FOR INSPECTION REVALIDATION DURING MEASUREMENT IN SHOP.
- SEALS RETAINER ARE TO BE ASSEMBLED WITH PIVOT RING AND DISPATCHED. SEAL RETAINERS AT JOINT TO BE DISPATCHED LOOSE.
- FLOW LINE TO BE MARKED IN QUADRANT-1 AT  $\phi 5708$  FOR LOCATING AND INSTALLATION AT SITE.
- PLATE IT.NO. 11 TO BE CUT AND REMOVED BEFORE DISPATCH.
- PAINT & PROTECT TO PROCESS SPECIFICATION NO. HT00005 AS FOLLOWS:
  - ALL MACHINED SURFACES TO CAT-G.
  - ALL UNMACHINED SURFACES TO CAT-C.
- USE STUDS AND NUTS (IT.NO.30,31,90&91) OF ASSEMBLY DRAWING FOR JOINING QUADRANTS.
- ALL TAPPED HOLES TO BE CHECKED BY USING RELEVANT RH PLUG GAUGES.
- FABRICATION WEIGHT OF PIVOT RING QUADRANT = 2855 KG.
- DIMENSION OF PIVOT RING QUADRANT = 4036x1252x355



KEY PLAN SHOWING THE PLATES WELDED FOR DIALLING PURPOSE (TECHNOLOGICAL PURPOSE)

NOTE: ITEM QUANTITY CALLED IN BOM ARE FOR ONE QUADRANT ONLY.

VAR. NO.	ITEM NO.	DESCRIPTION	QTY	UNIT	WT.	ZONE
	012	DOWEL $\phi 32 \times 40$ LG.	4	20301 202 15	0.25	001
	011	PLATE 50TK x 80 x 100		AA1011819210 AA10119	3.14	001
	010	DOWEL $\phi 40 \times 45$ LG.	4	20301 184 02	0.35	001
16	009	S.S. LINER		SEE DETAIL ASTM A 240 UNS 41500	7.45	006
	008	SLEEVE	4	20301 202 01	21.00	005
25	007	STRIP 25TK x 50W x 505LG		AA1011819155 AA10119	5.00	002
40	006	RIB-3		SEE DETAIL AA1011819198 AA10119	28.9	004
	005	BOSS CASTING-1	3	20301 202 15	83.0	005
32	004	RIB-2		SEE DETAIL AA1011819171 AA10119	9.5	008
32	003	RIB-1		SEE DETAIL AA1011819171 AA10119	6.6	005
56	002	JOINT FLANGE		SEE DETAIL AA1011819228 AA10119	44.7	002
110	001	RING (QUADRANT)		SEE DETAIL IS 2062 GR.B	1963.0	001

28 - CARD TYPE-3      28 - CARD TYPE-1      28 - CARD TYPE-2

ADDITIONAL INFORMATION      TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT      PALAMURU RANGAREDDY LIS STAGE-III 9x145 MW

STATUS OF DRAWING 'U'

DISTRIBUTION OF PRINTS  
HTE-2, WTM(P)-1, FGM-7, THX-1, WTM(S)-4

REV. DATE ALTERED RRC CHECKED UK/ND  
04 10.02.21 APPD SK

REV. DATE ALTERED RRC CHECKED UK/ND  
03 09.02.21 APPD SK

REV. DATE ALTERED RRC CHECKED UK/ND  
02 22.09.2021 APPD SK

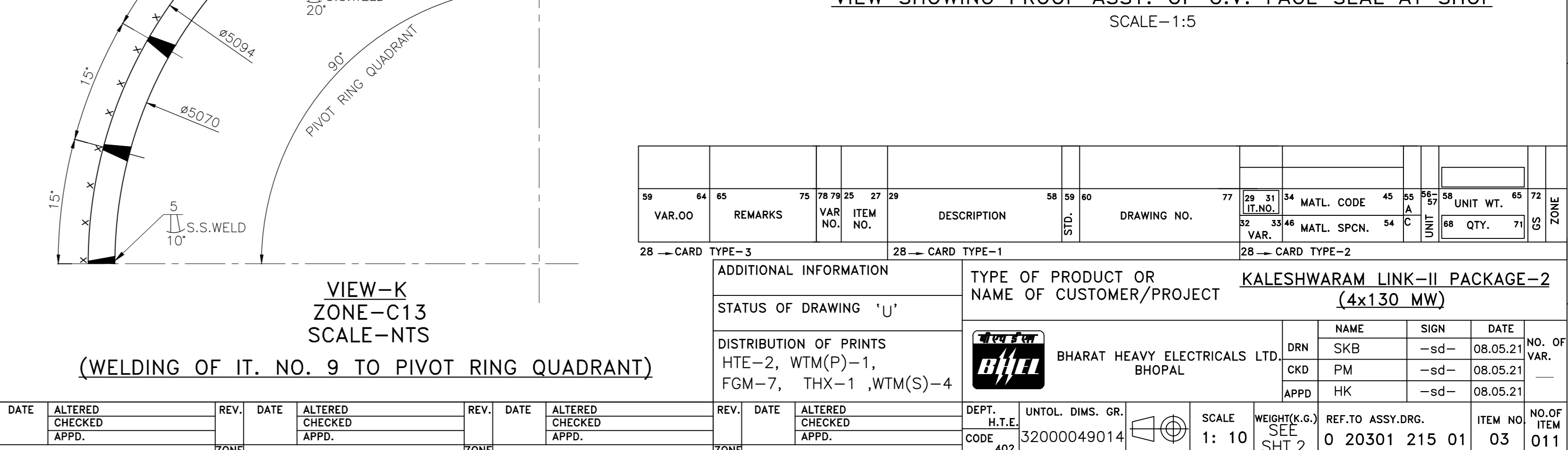
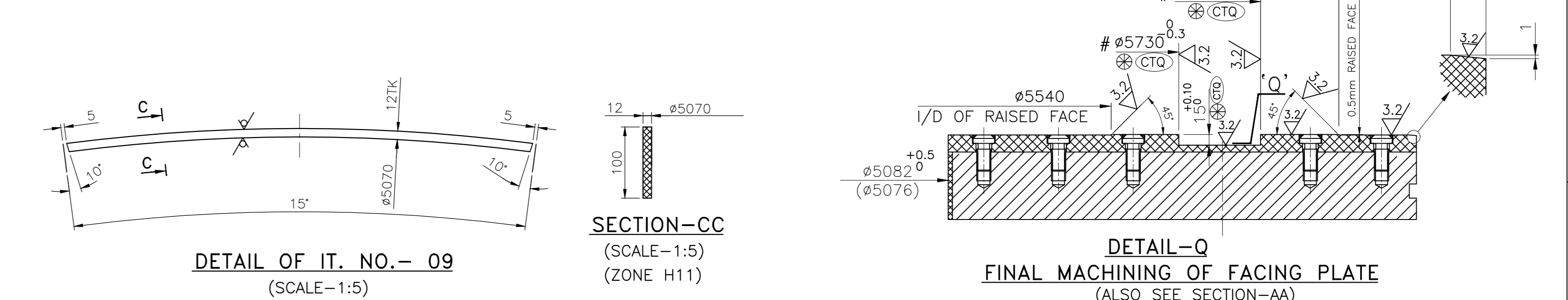
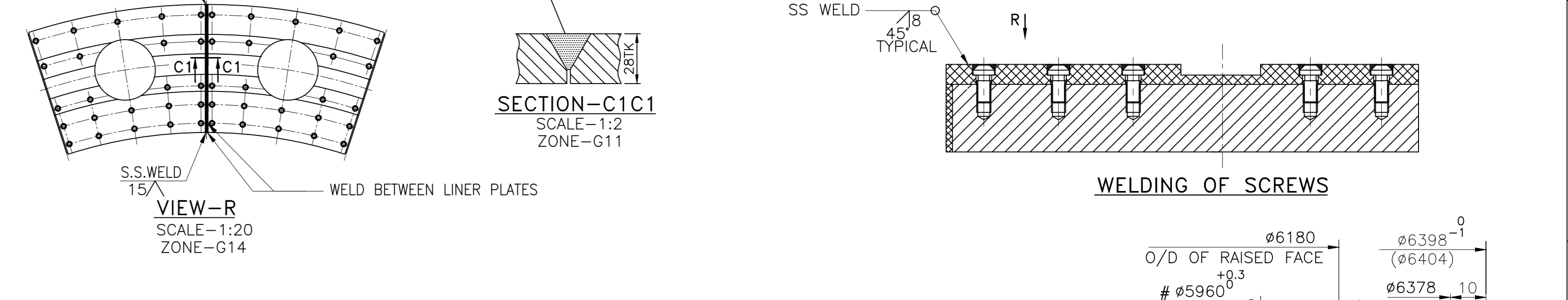
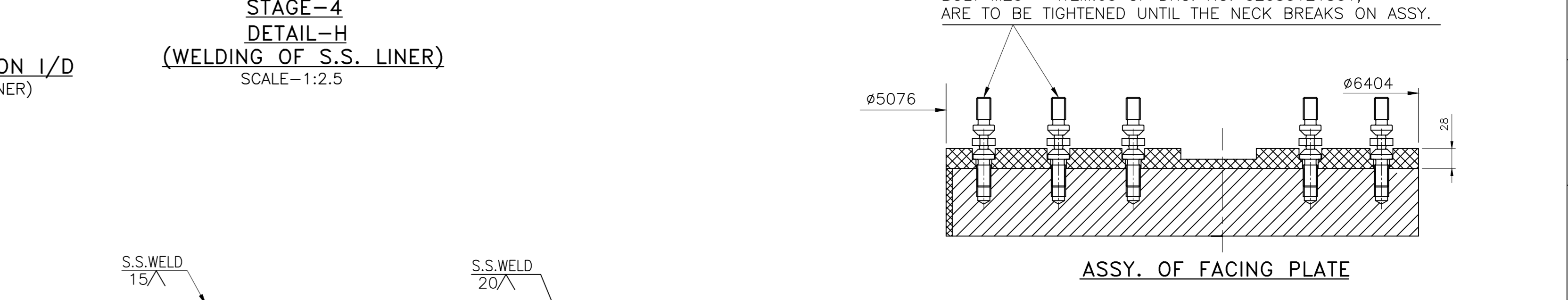
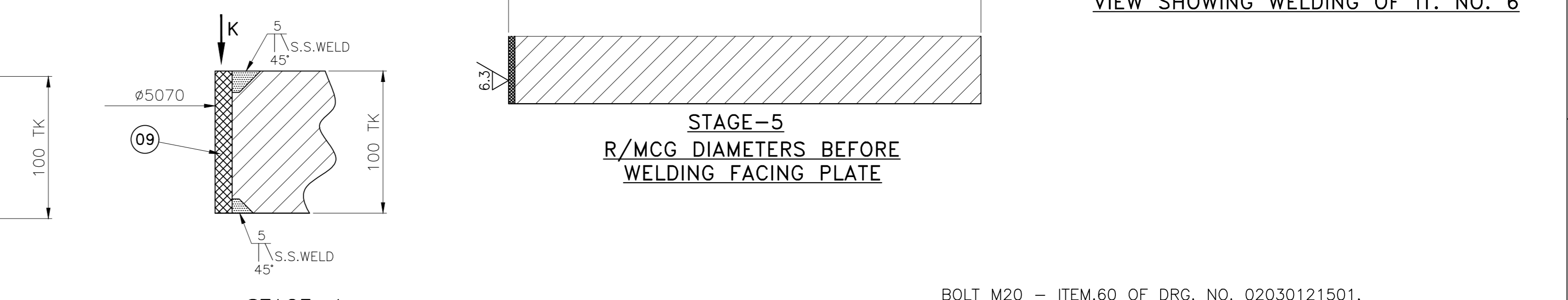
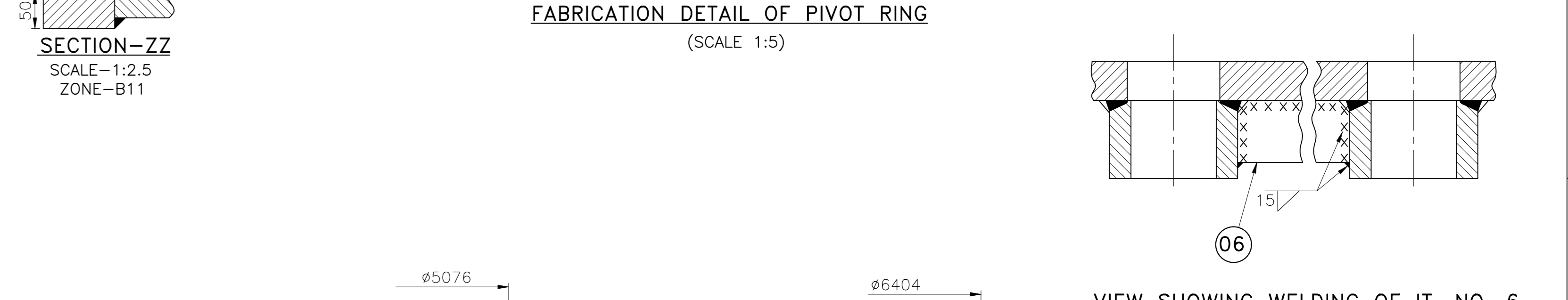
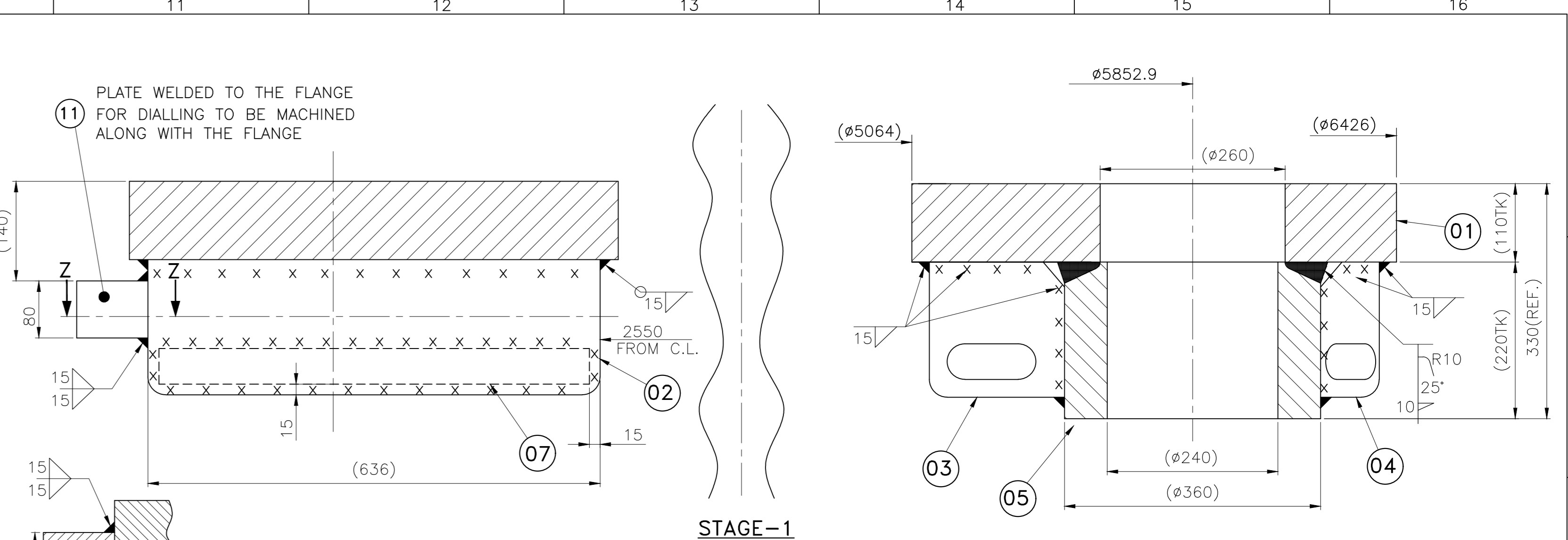
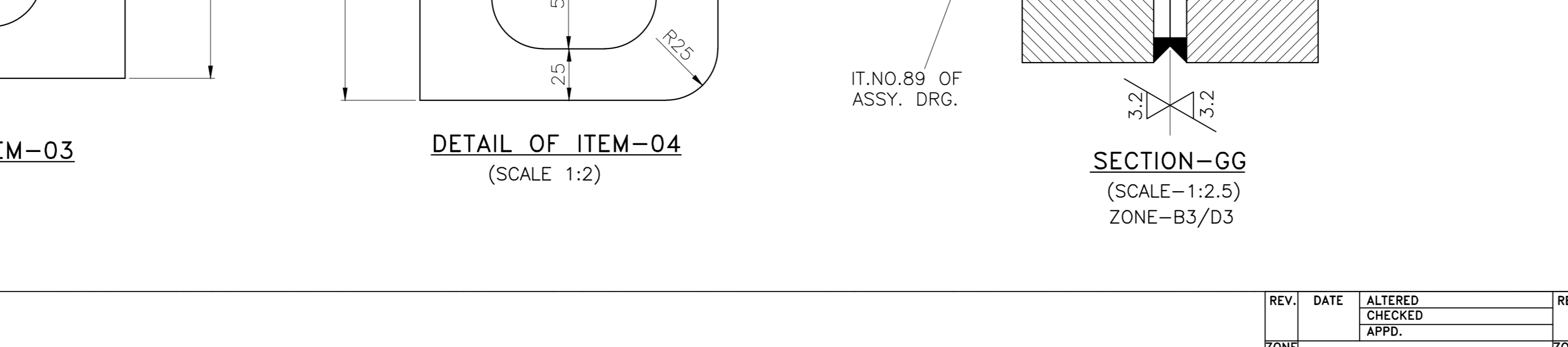
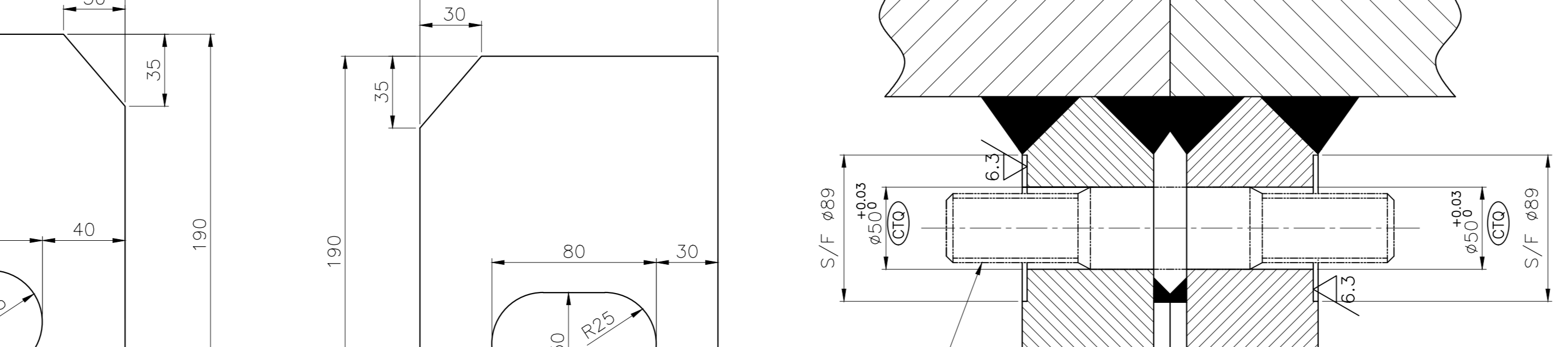
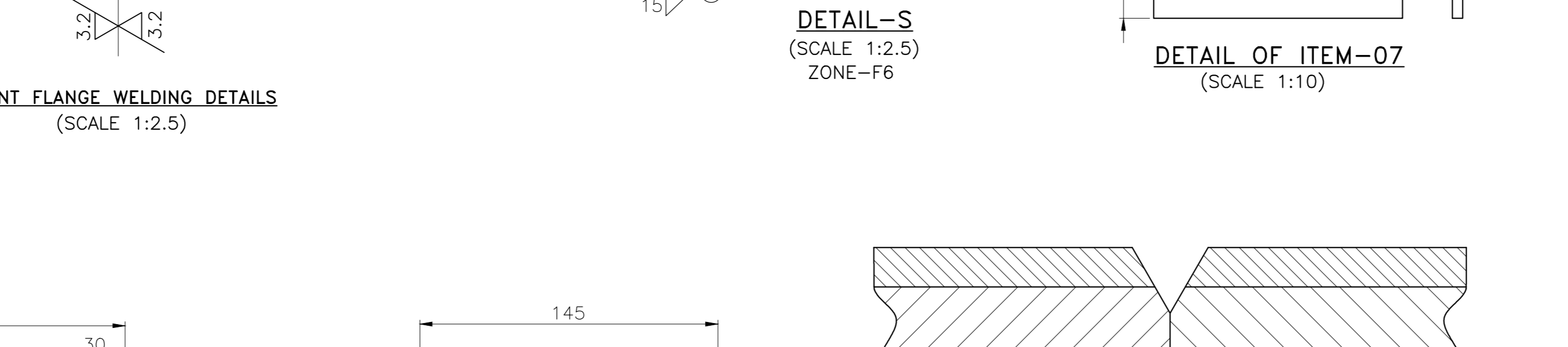
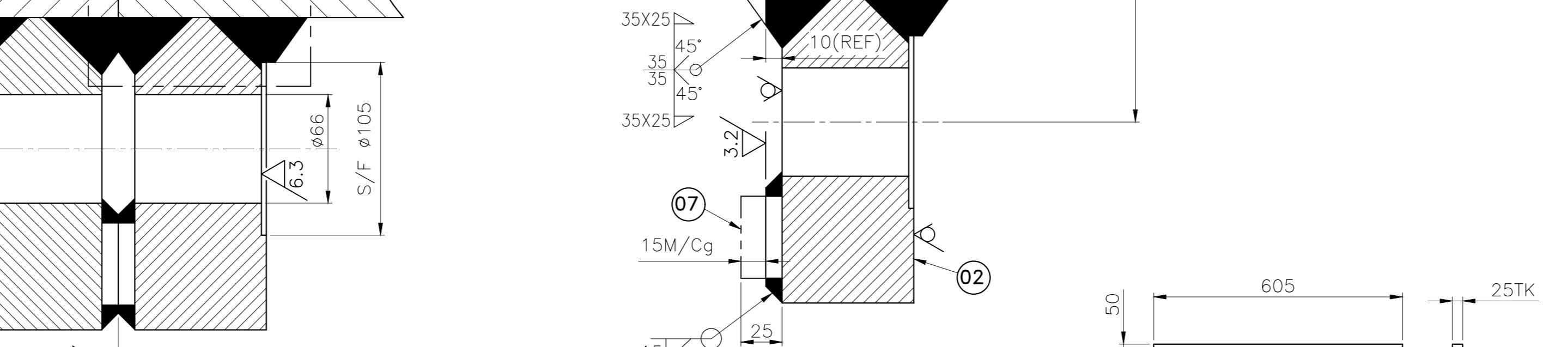
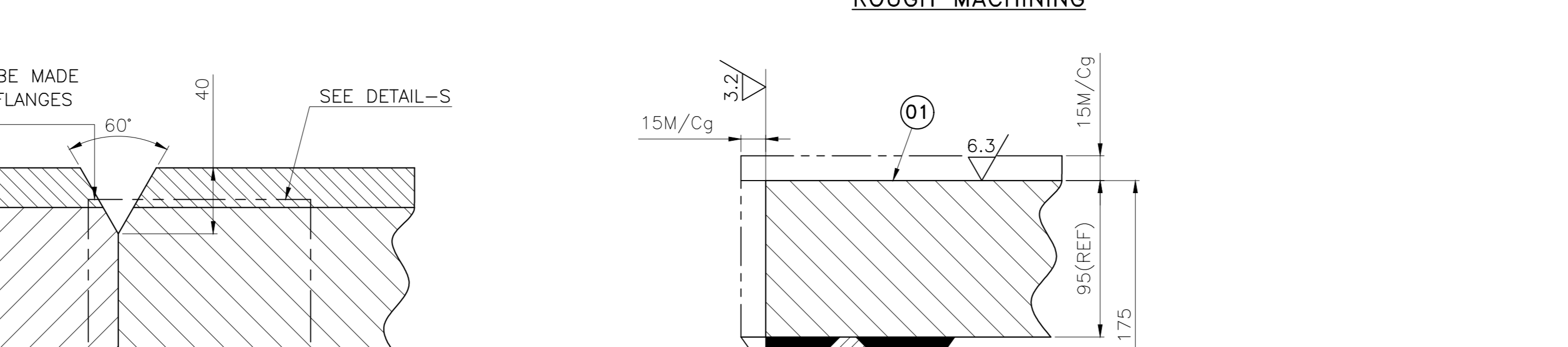
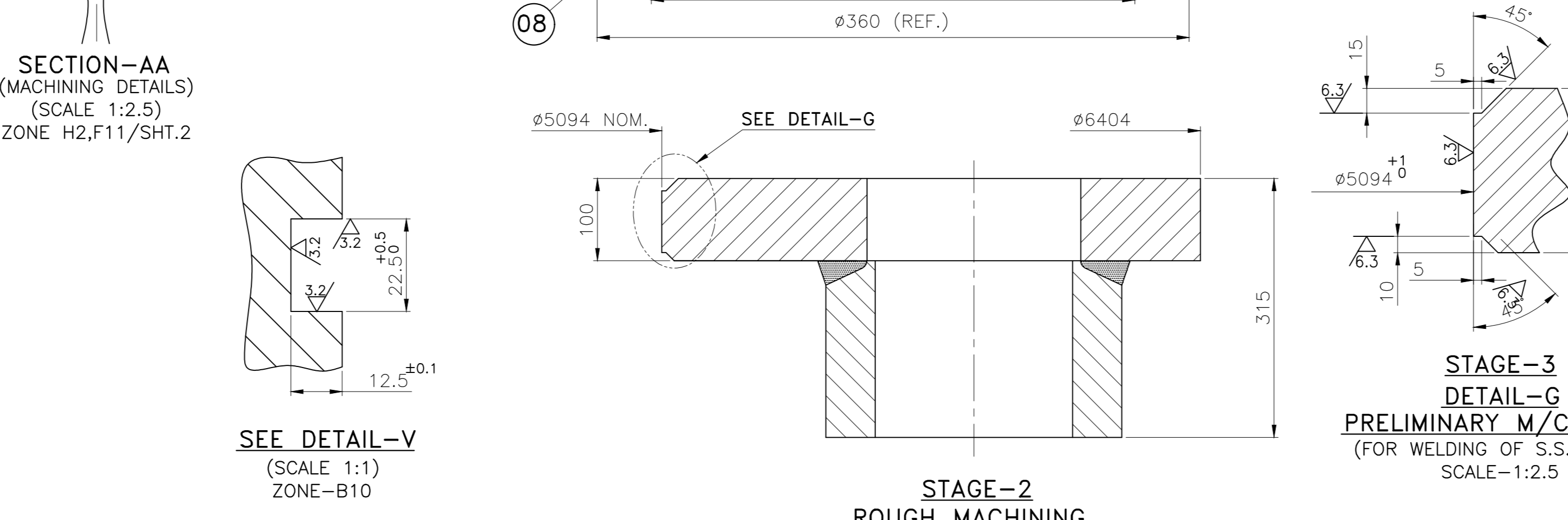
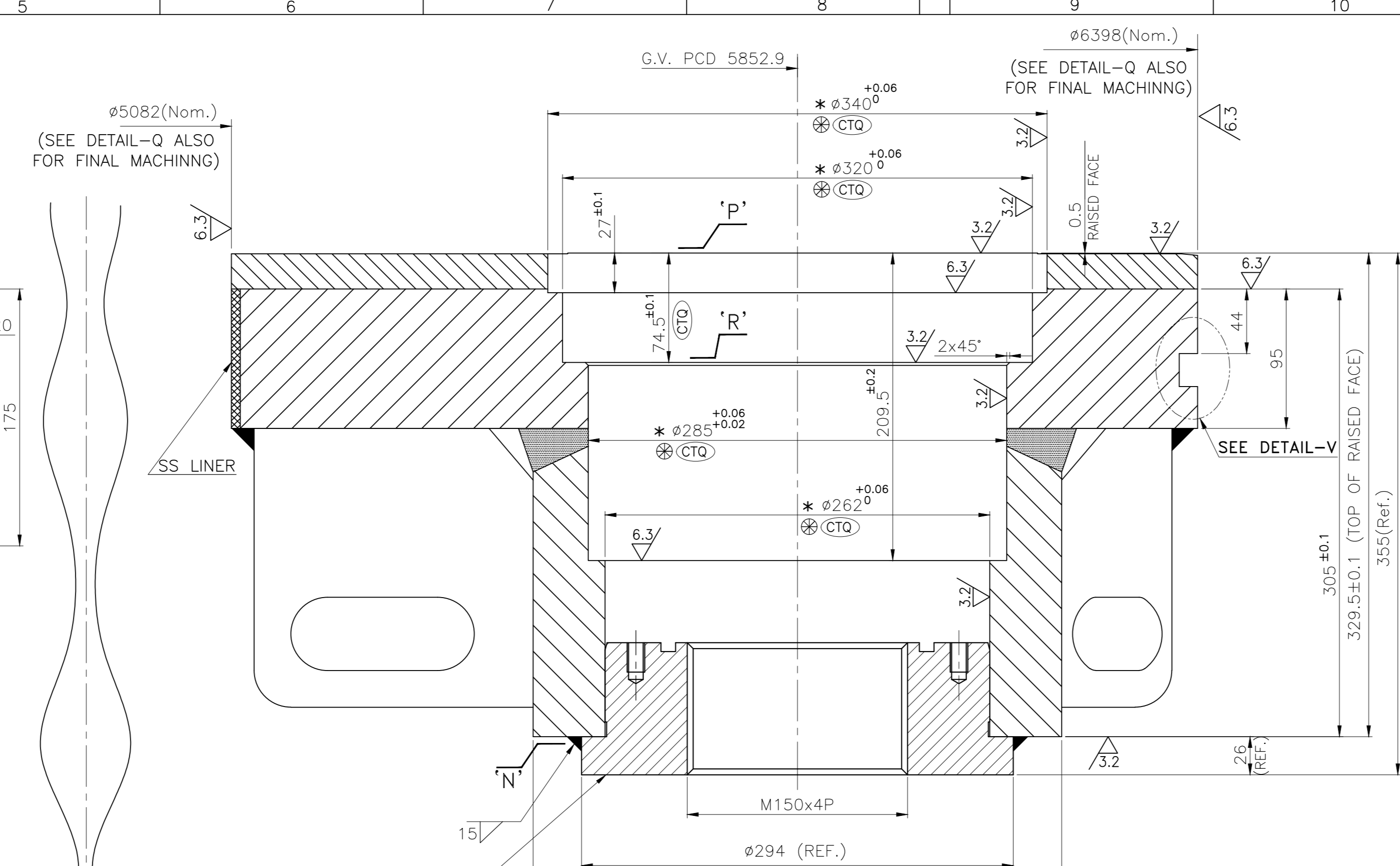
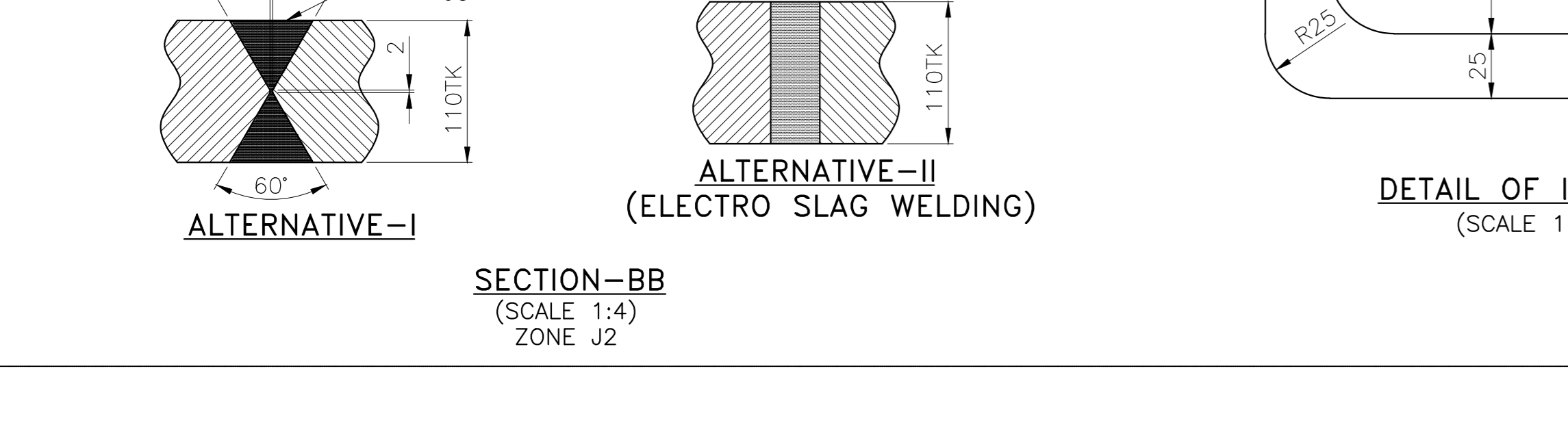
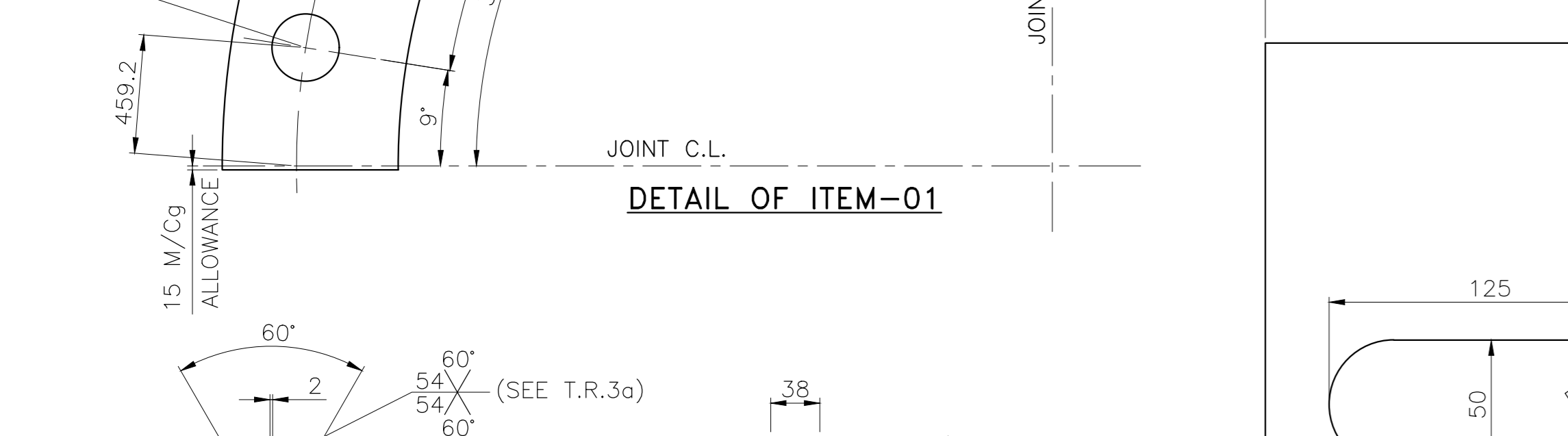
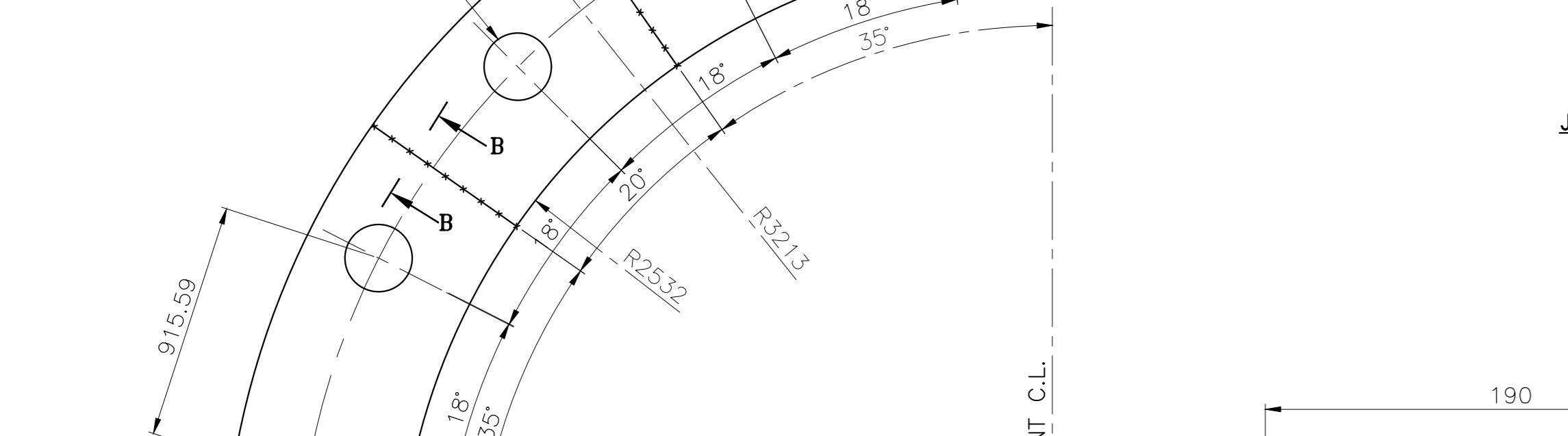
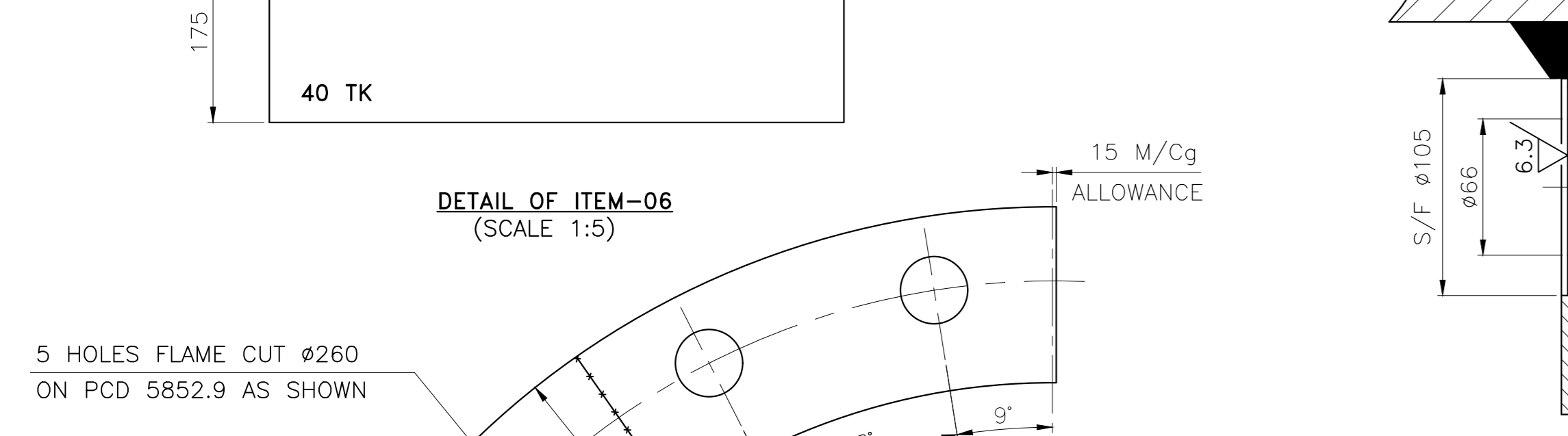
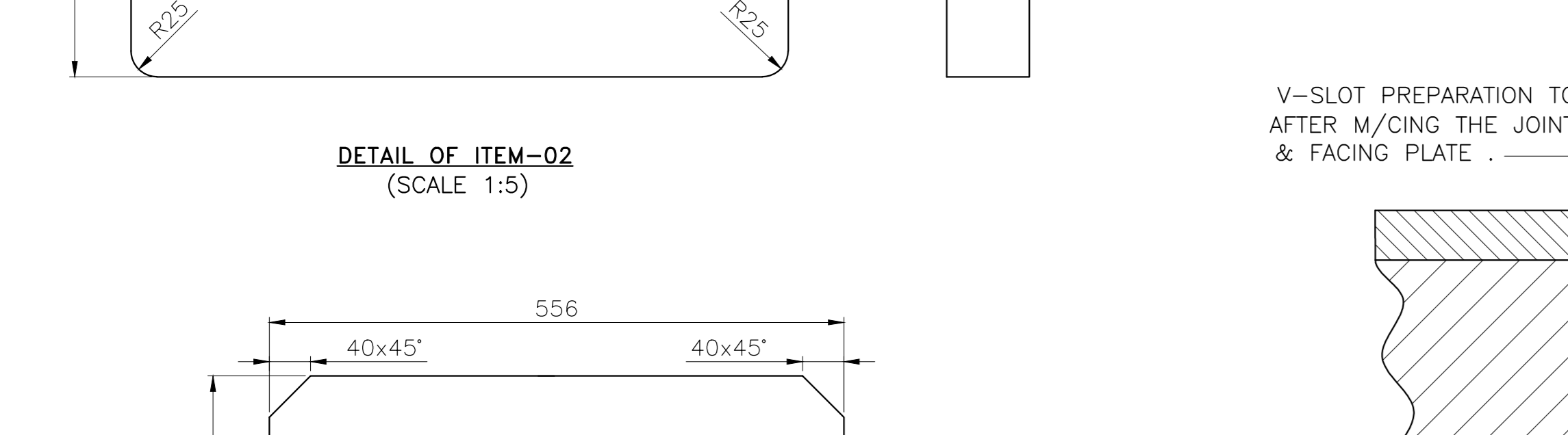
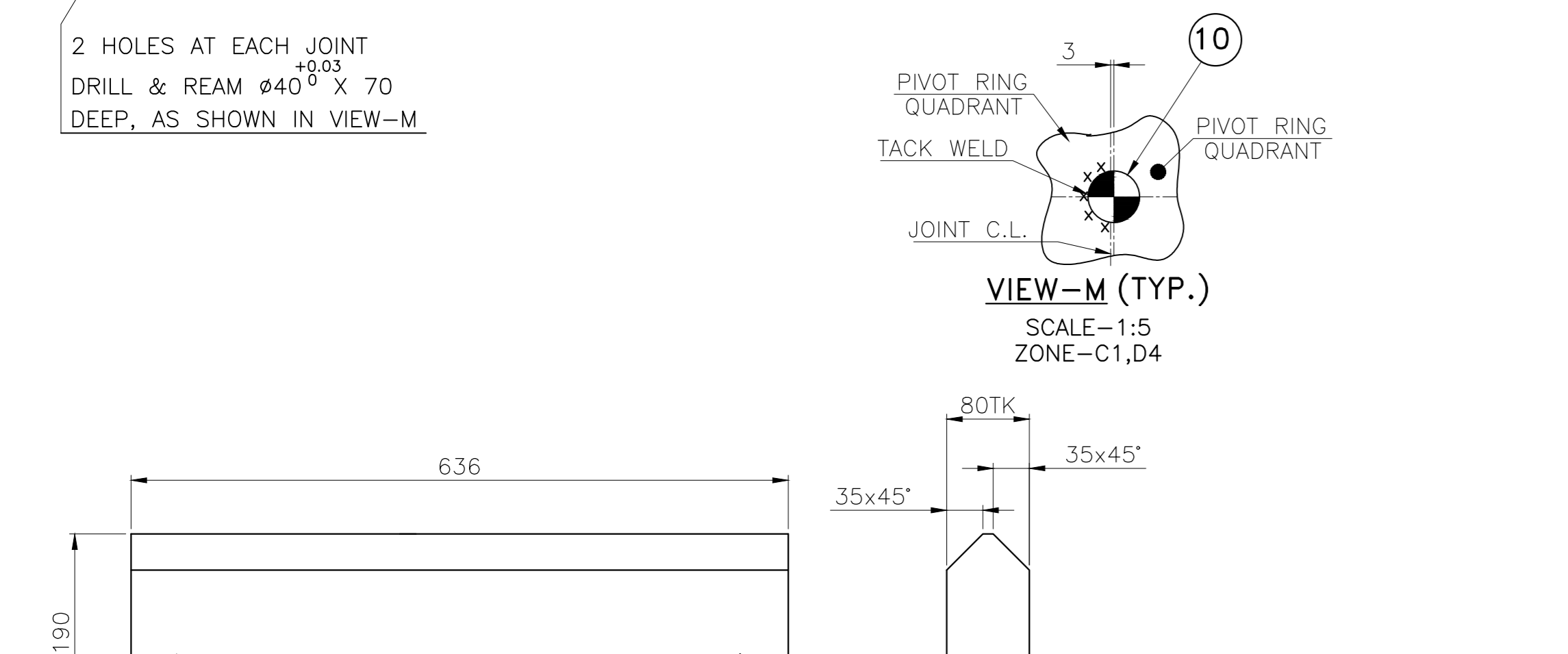
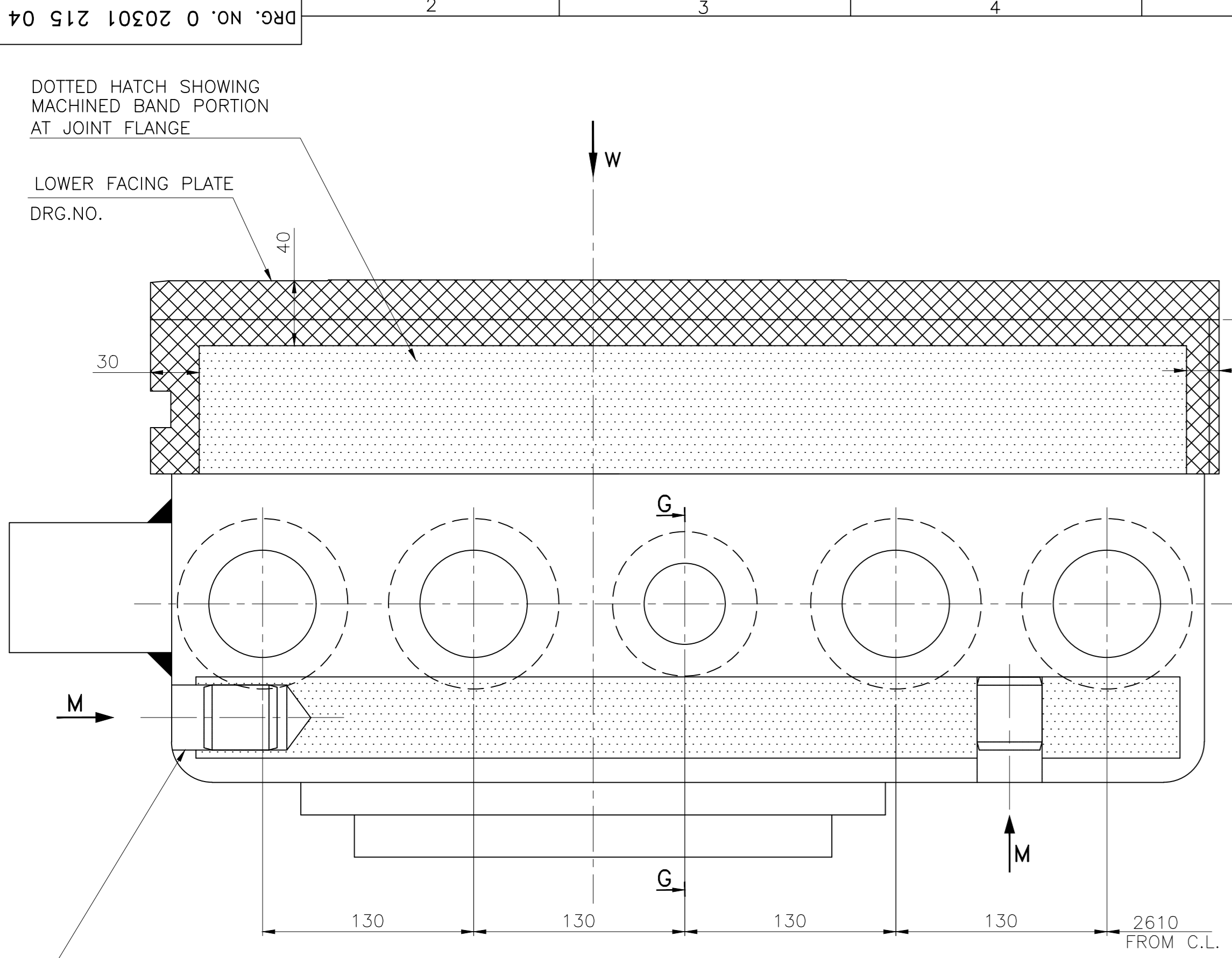
REV. DATE ALTERED RRC CHECKED UK/ND  
01 09.09.2021 APPD SK

DEPT. UNTO. DIMS. GR. H.T.E. SCALE WEIGHT/KG. REF. TO ASSY. DRG. ITEM NO. NO. OF REV. OF  
32000049014 1:10 2275 0 20301 202 01 03 012

TITLE PIVOT RING (QUADRANT) (M/Cg AND FAB)      DRAWING NO. 0 203 01 20204      REV. 04

SHT. NO. 2      NO. OF SHT. 2

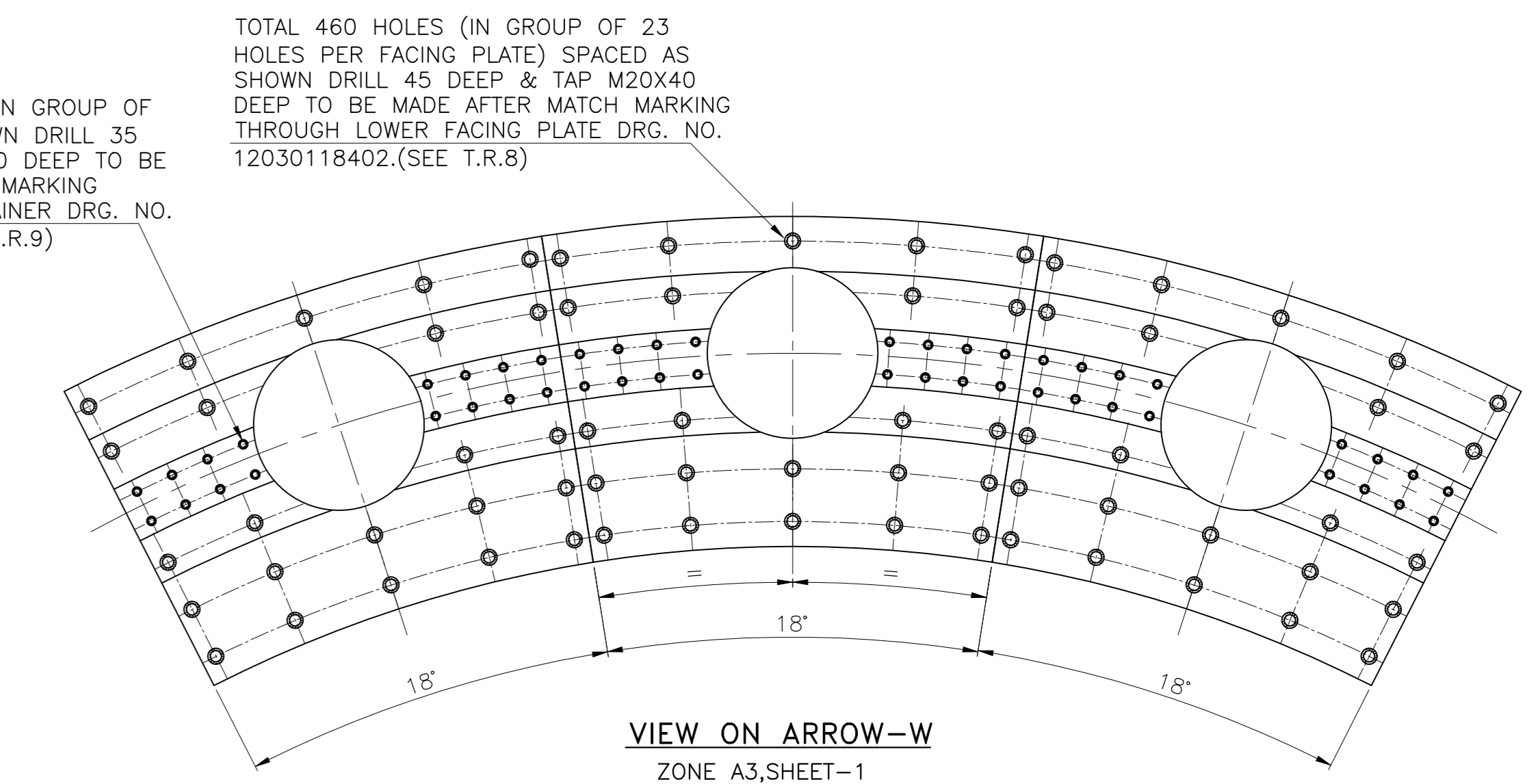
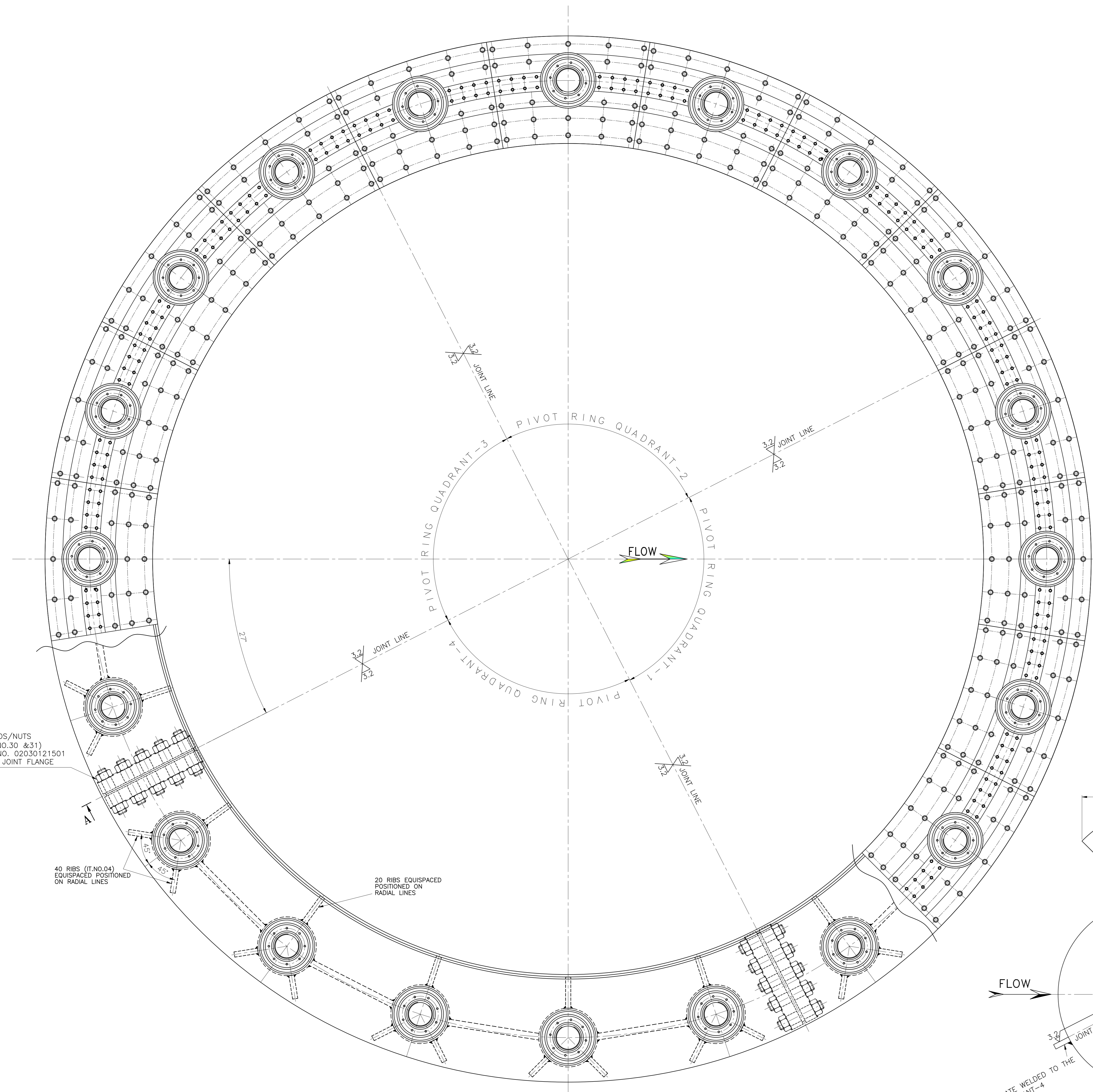
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O 20301 18404  
REV. DATE  
SHT. NO. 1

SR	VAR.00	REMARKS	DATE	BY	CHKD	APPD	DESCRIPTION	STD	NO	DRAWING NO.	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100		
28							ADDITIONAL INFORMATION			TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	KALESHWARAM LINK-II PACKAGE-2 (4x130 MW)																									
							STATUS OF DRAWING			'U'																										
							DISTRIBUTION OF PRINTS			HTE-2, WTM(P)-1, FGM-7, THX-1, WTM(S)-4																										
							DEPT.			UNTL. DIMS. GR.																										
							SCALE			1:10																										
							TITLE			PIVOT RING (IN QUADRANTS) (M/Cg AND FAB)																										
							REF. TO ASSY. DRG.			0 20301 215 01 03																										
							NO. OF ITEM			011																										
							REV.			00																										
							SHT. NO.			1																										



TOTAL 320 HOLES (IN GROUP OF 16 HOLES) AS SHOWN DRILL 35 DEEP & TAP M16X30 DEEP TO BE MADE AFTER MATCH MARKING THROUGH SEAL RETAINER DRG. NO. 12030118404.(SEE T.R.9)

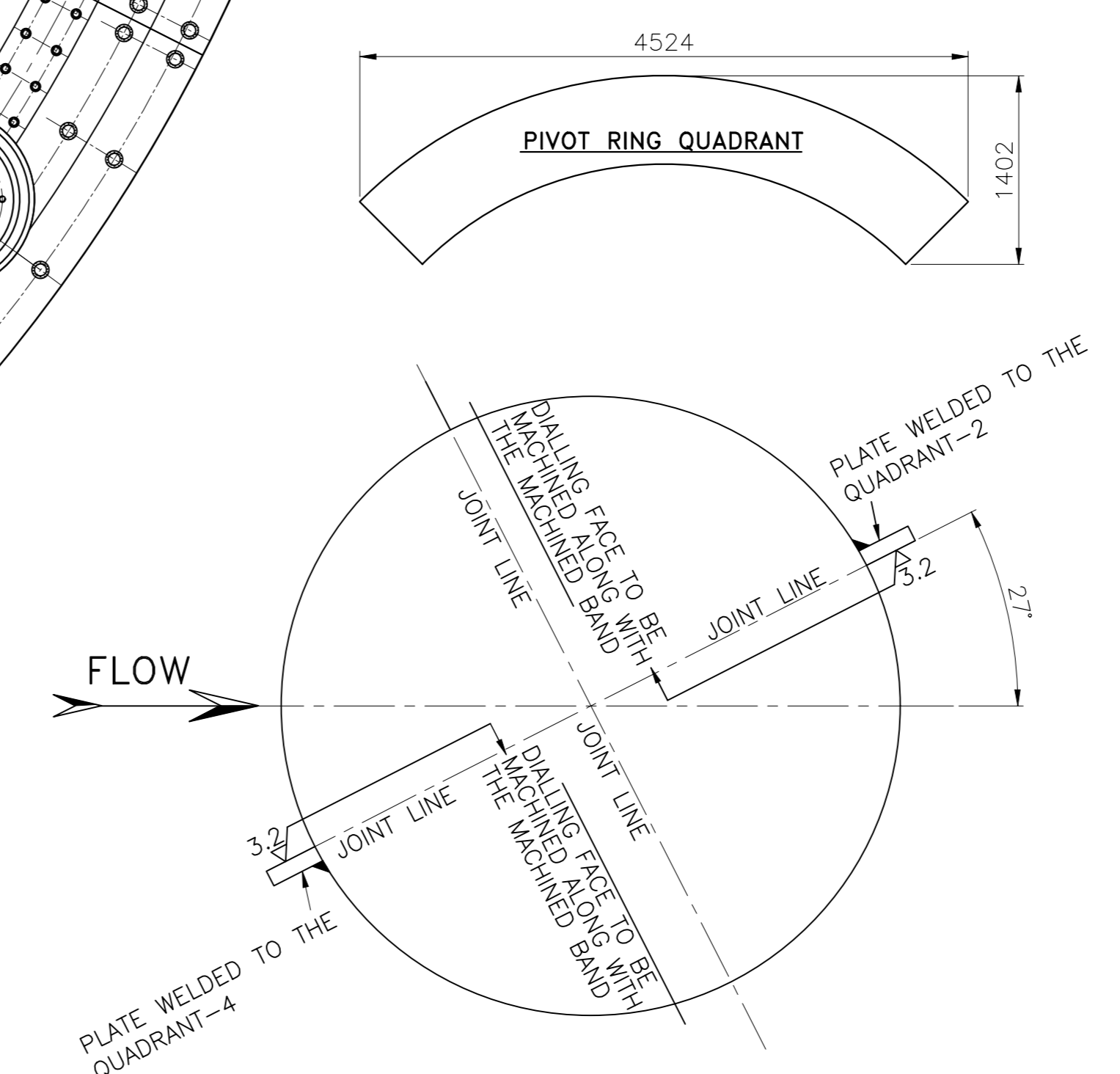
TOTAL 460 HOLES (IN GROUP OF 23 HOLES PER FACING PLATE) SPACED AS SHOWN DRILL 45 DEEP & TAP M20X40 DEEP TO BE MADE AFTER MATCH MARKING THROUGH LOWER FACING PLATE DRG. NO. 12030118402.(SEE T.R.8)

TECHNICAL REQUIREMENTS:-

- DIMENSIONS GIVEN IN DRAWING DO NOT INCLUDE ANY TECHNOLOGICAL ALLOWANCE FOR FABRICATION. DIMENSIONS IN ( ) ARE FOR WELDED ASSEMBLY/BEFORE MACHINING.
- MATERIAL:- ASTM A 516 GR-60/70 FOR IT.NO. 01 AND IT.NO. 05 THEREFORE NECESSARY PRECAUTION FOR PRE-HEATING AND WELDING ELECTRODES ARE TO BE TAKEN BY FBM.
- WELDING TO CORPORATE STD. AA0622101 TO GRADES AS SPECIFIED BELOW AND NDT TO BE CARRIED OUT BEFORE STRESS RELIEVING.
  - ALL RADIAL JOINTS BETWEEN PARTS OF IT.NO. 01 SHALL BE GRADE-II WITH 100% U.T., MCD AND D.P. TESTING.
  - WELD OF JOINTS BETWEEN IT.No. 01 & 02 TO BE GRADE-II WITH 100% U.T., MCD AND D.P. TESTING.
  - ALL FILLET WELDS TO GRADE-III WITH 100% D.P. TESTING.
  - EXTENT OF EXAMINATION BY U.T. FOR PARTIAL PENETRATION WELD SHALL BE WELD SIZE-5mm.
- STRESS RELIEVING TO BE CARRIED OUT AS PER PROCESS SPON. BP640299 AND SUBSEQUENT SHOT BLASTING TO BE DONE.
- DURING FABRICATION BORES #260 IN IT.NO.01& #240 IN IT.NO.05 ON GV PCD 5852.9 TO BE KEPT ALIGNED. ALLOWABLE NONALIGNMENT 3mm. VARIATION IN PITCH OF EACH PAIR OF ADJACENT HOLES IN INDIVIDUAL PLATES NOT TO BE MORE THAN ± 3mm DURING FABRICATION.
- PRELIMINARY MACHINING ON I/D OF PIVOT RING TO BE CARRIED OUT FOR WELDING OF S.S. LINER IT.NO. 09. REFER DETAIL-G, DETAIL-H AND VIEW-K (SHEET-1).
- 20 G.V. HOLES SHALL BE MACHINED IN SUCH A WAY THAT THESE ARE CONCENTRIC W.R.T. CORRESPONDING HOLES IN OUTER TOP COVER M/Cg (DRG.NO. 0 20301 21502) WITHIN 0.05mm.
- HOLES FOR FIXING OF LOWER FACING PLATE TO BE MADE AT LOCATIONS MATCH MARKED FROM LOWER FACING PLATE.
- HOLES FOR FIXING OF SEAL RETAINER TO BE MADE AT LOCATIONS MATCH MARKED FROM SEAL RETAINER.
- FINAL MACHINING OF LOWER FACING PLATES ARE TO BE CARRIED OUT AFTER ASSEMBLY WITH PIVOT RING. ENSURE USE OF RUBBER CORD IN IT.NO. 12 IN EACH QUADRANT BEFORE FIXING SCREWS. FINAL MACHINING OF FACE SEAL GROOVE IN FACING PLATE TO BE CARRIED OUT ON ASSEMBLY.
- (a) \*MARKED DIAMETERS ARE TO BE CONCENTRIC WITHIN 0.02. (b) SURFACES P,R AND N SHALL BE PERPENDICULAR TO PUMP AXIS WITHIN 0.05. (B) #MARKED DIAMETERS ARE TO BE CONCENTRIC TO PUMP AXIS WITHIN 0.10. (d) DIMENSIONS MARKED (C) ARE TO BE MAINTAINED AS PER DRAWING FOR INTERCHANGEABILITY OF GUIDE VANES, G.V.BUSH, SLEEVE, GUIDE VANE FACE SEAL AND FACE SEAL RETAINERS. (e) DIMENSIONS MARKED (C) ARE CRITICAL FOR INSPECTION REVALIDATION DURING MEASUREMENT IN SHOP.
- FACE SEALS AND SEAL RETAINER ARE TO BE PROOF ASSEMBLED WITH PIVOT RING AT BHEL WORKS BEFORE DISPATCH. WTM TO ARRANGE TECHNOLOGICAL SCREWS FOR PROOF ASSEMBLY.
- FLOW LINE TO BE MARKED IN QUADRANT-1 AT #6398 FOR LOCATING AND INSTALLATION AT SITE.
- PLATE IT.NO. 11 TO BE CUT AND REMOVED BEFORE DISPATCH.
- PAIN & PROTECT TO PROCESS SPECIFICATION NO. HT00005 AS FOLLOWS:
  - ALL MACHINED SURFACES TO CAT-G.
  - ALL UNMACHINED SURFACES TO CAT-C.
- USE 20 STUDS AND 40 NUTS (IT.NO.30 & IT.NO.31) OF DRG.NO. 02030121501 FOR JOINING QUADRANTS.
- ALL TAPPED HOLES TO BE CHECKED BY USING RELEVANT RH PLUG GAUGES.
- FABRICATION WEIGHT OF PIVOT RING. = 13900 KG.
- DIMENSION OF PIVOT RING QUADRANT = 4524 x 1402 x 356

USE STUDS/NUTS M56 (IT.NO.30 &31) OF DRG.NO. 02030121501 AT EACH JOINT FLANGE

40 RIBS (IT.NO.04) EQUISPACED POSITIONED ON RADIAL LINES  
20 RIBS EQUISPACED POSITIONED ON RADIAL LINES



KEY PLAN SHOWING THE PLATES WELDED FOR DIALLING PURPOSE (TECHNOLOGICAL PURPOSE)

NO.	TK	ITEM NO.	DESCRIPTION	QTY.	UNIT	WT.	NO. OF
50	TK	011	PLATE 50TK x 80 x 100			4.0	002
		010	DOWEL #40 X 45 LG.	4	20301 184 02	0.350	008
12	TK	009	S.S. LINER	SEE DETAIL	UNS 41500	6.90	024
		008	SLEEVE	4	20301 184 12	28.0	020
25	TK	007	STRIP 25TK x 50W x 606LG		AA1011819155	6.000	008
40	TK	006	PLATE	SEE DETAIL	AA1011819198	30.0	016
		005	BOSS	3	20301 215 15	90.50	020
32	TK	004	RIB-2	SEE DETAIL	AA1011819171	6.90	040
32	TK	003	RIB-1	SEE DETAIL	AA1011819171	7.50	020
80	TK	002	JOINT FLANGE	SEE DETAIL	AA1011819260	75.0	008
110	TK	001	RING (IN QUADRANTS)	SEE DETAIL	IS 2062	2440.0	004

ADDITIONAL INFORMATION: STATUS OF DRAWING 'U'

DISTRIBUTION OF PRINTS: HTE-2, WTM(S)-1, FCM-7, THY-1, WTM(S)-4

DEPT: UNTL. DIMS. GR. SCALE: WEIGHT/K.G. REF. TO ASSY. DRG. ITEM NO. NO. OF

SHARAT HEAVY ELECTRICALS LTD Bhopal

TITLE: PIVOT RING (IN QUADRANTS) (M/Cg AND FAB)

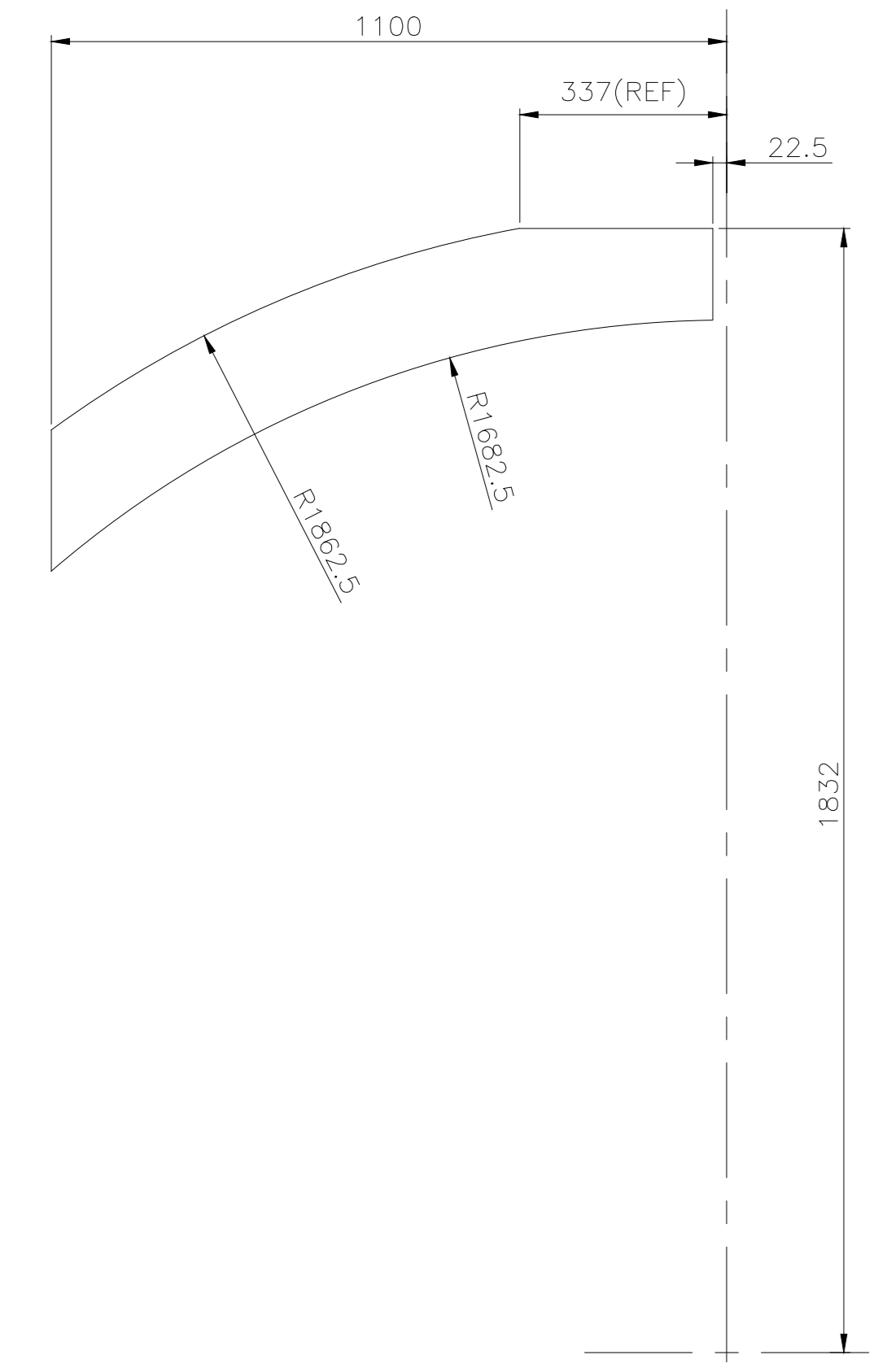
DRAWING NO. 0 20301 01 21504

REV. 00

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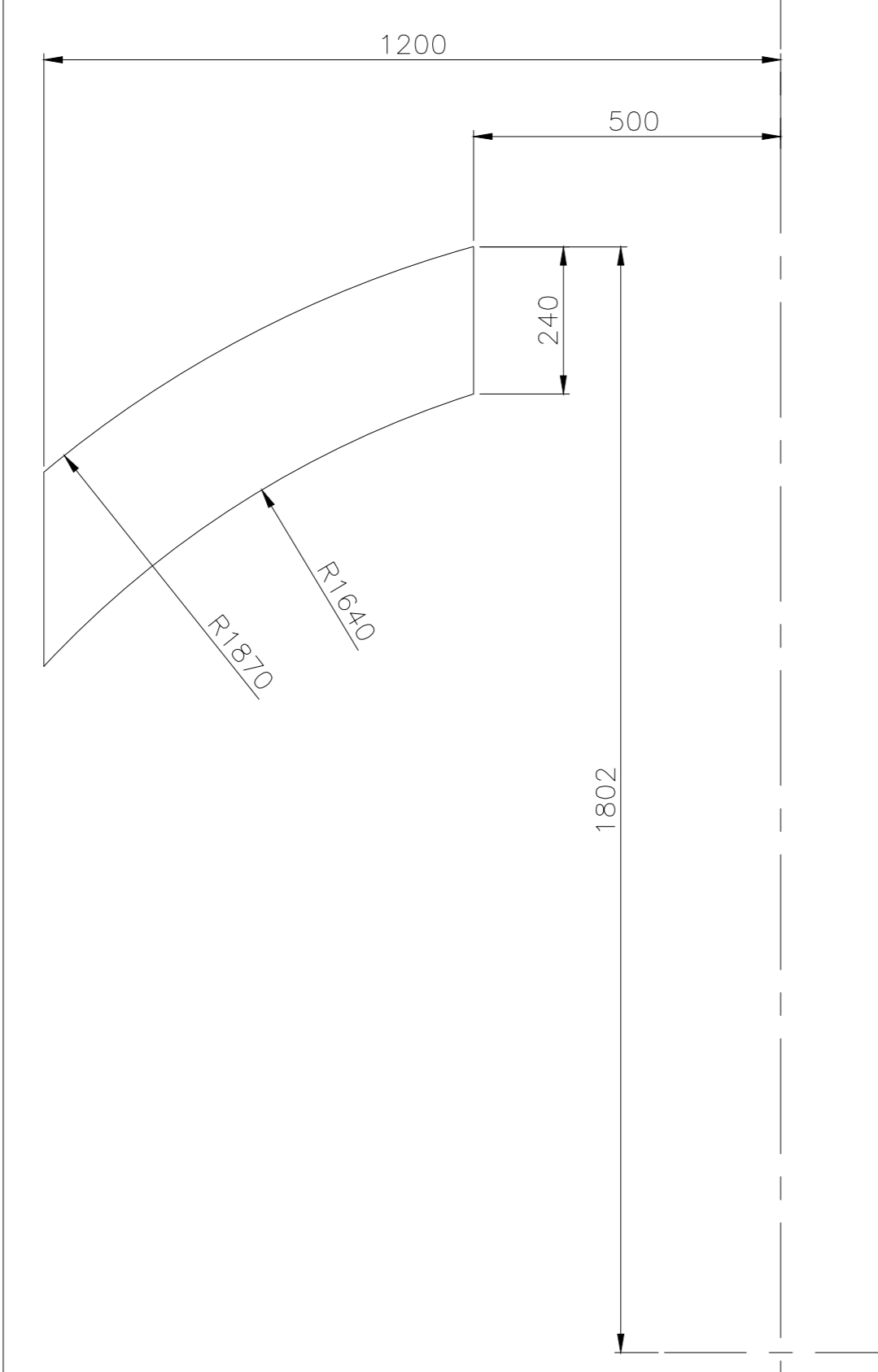
0 20301 18404  
REV. 00  
DATE





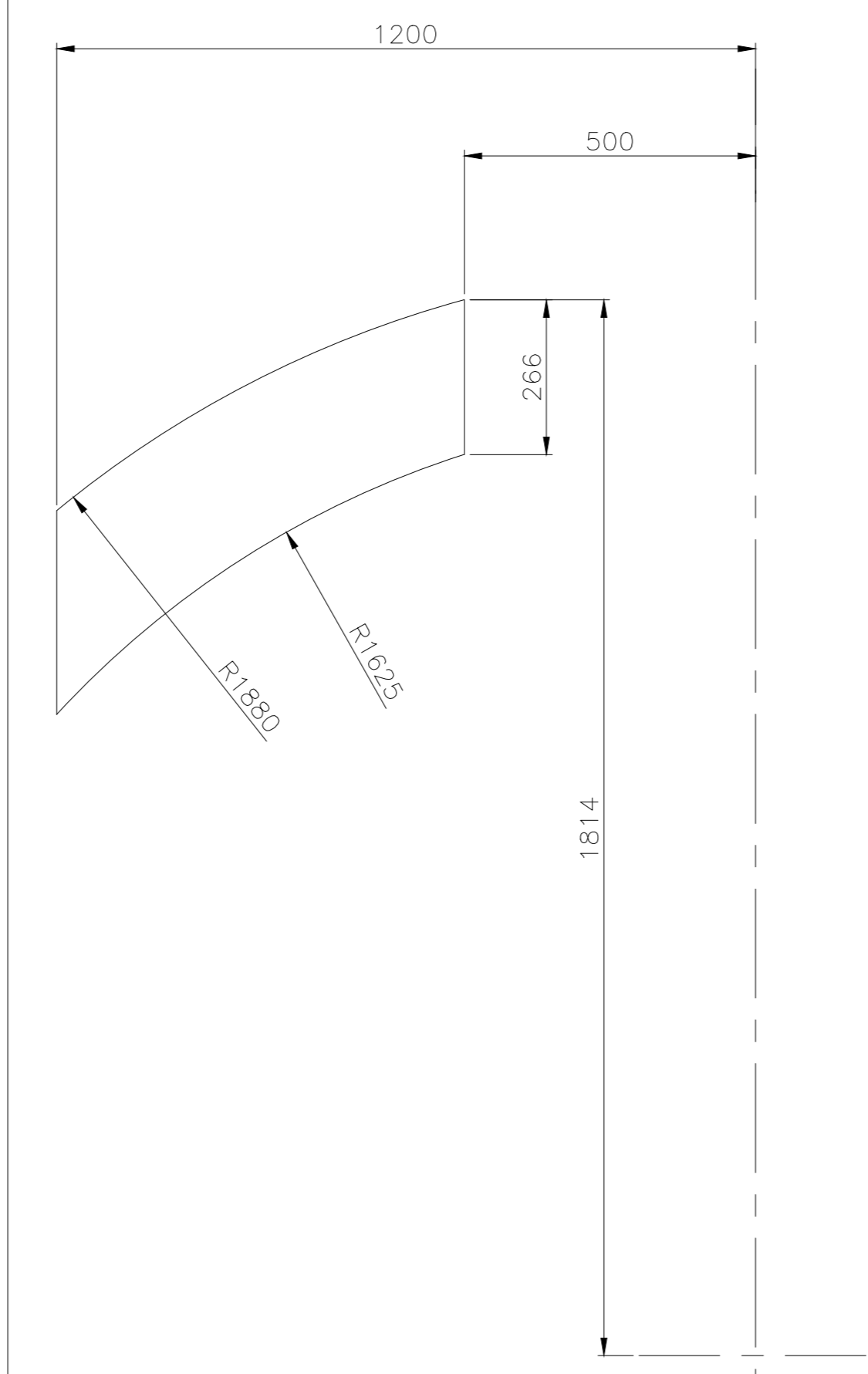
DETAIL OF ITEM-17  
45TK

NOTE:  
WELD PREPARATION TO BE MADE DURING FIT UP.



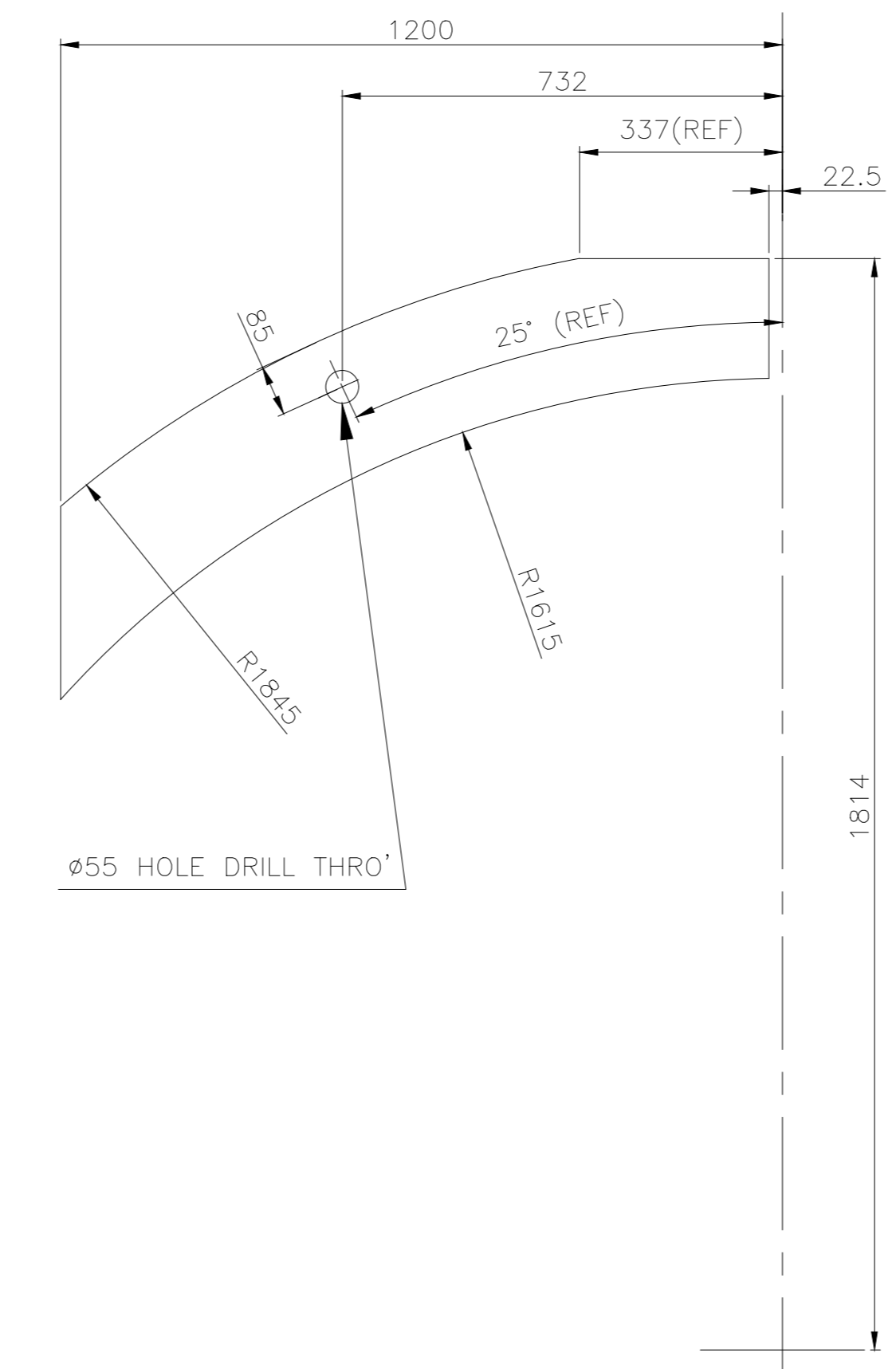
DETAIL OF ITEM-18  
45TK

NOTE:  
WELD PREPARATION TO BE MADE DURING FIT UP.



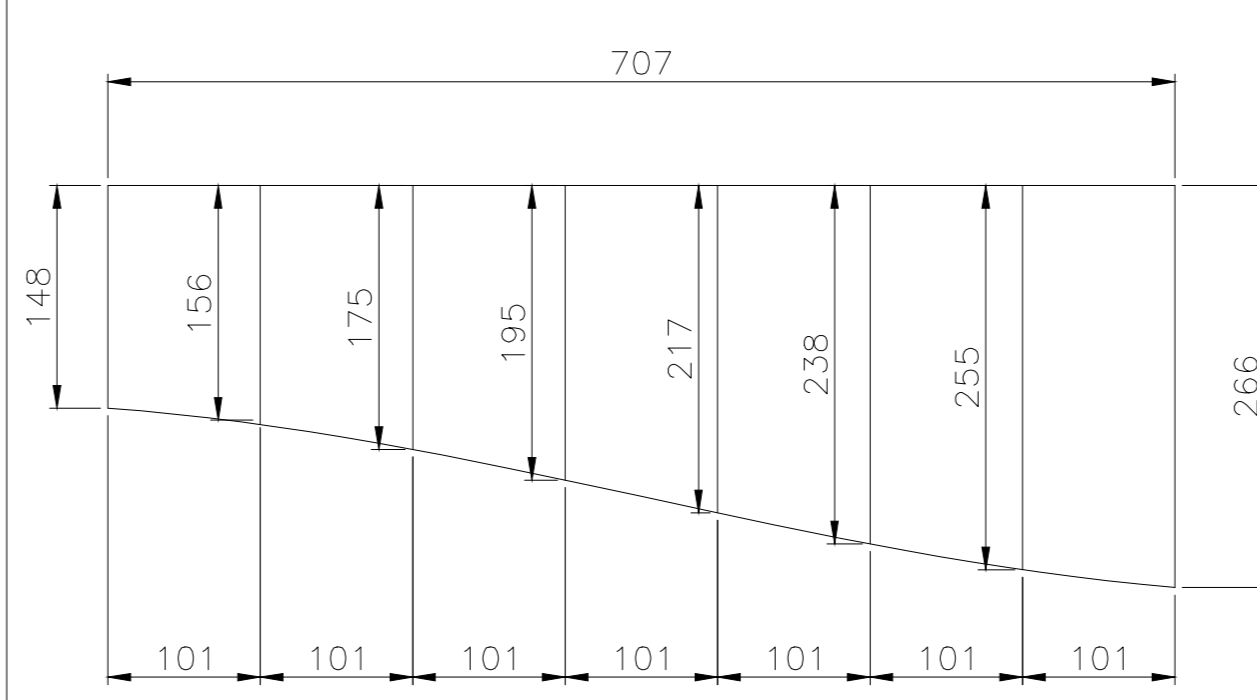
DETAIL OF ITEM-19  
45TK

NOTE:  
WELD PREPARATION TO BE MADE DURING FIT UP.

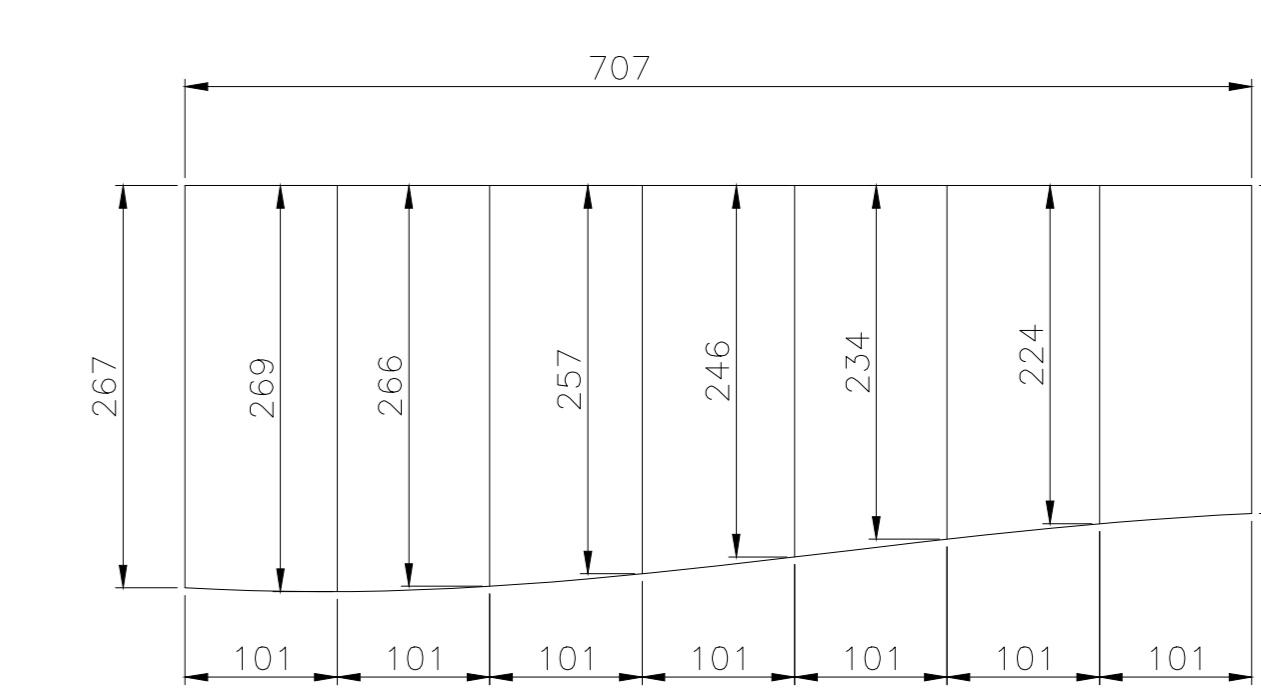


DETAIL OF ITEM-20  
45TK

NOTE:  
WELD PREPARATION TO BE MADE DURING FIT UP.

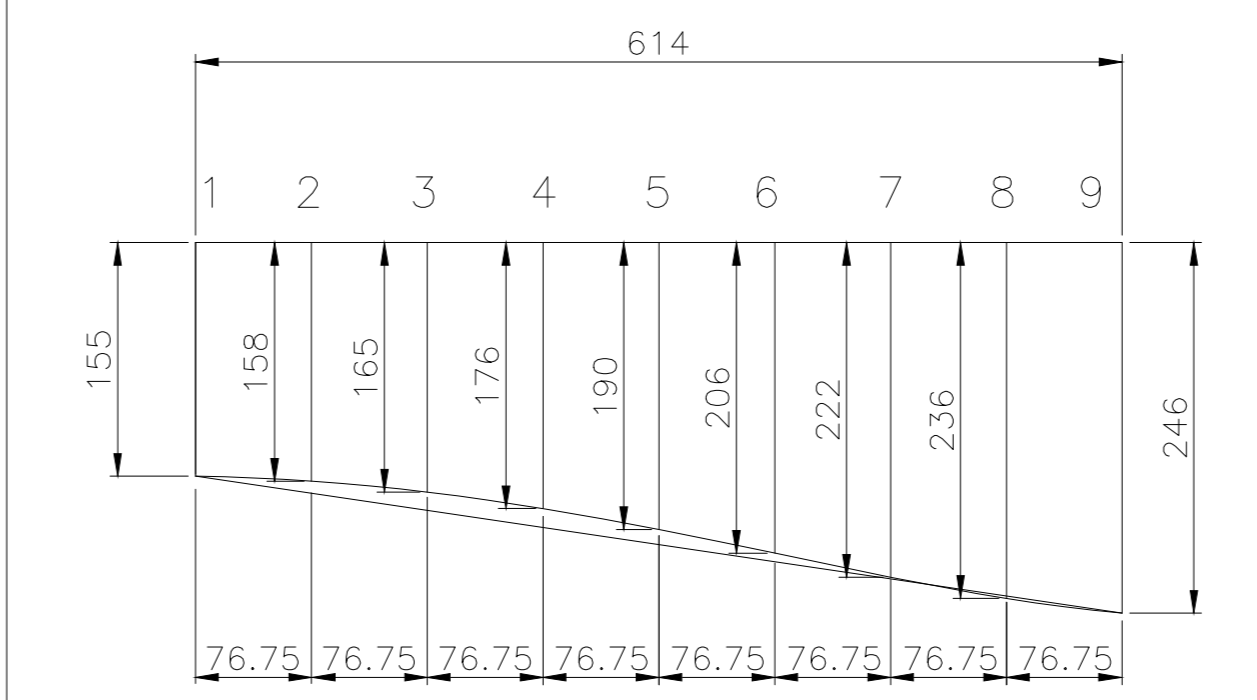


DEVELOPMENT DETAIL OF ITEM-23  
ITEM-23a [ROLL-UP]  
ITEM-23b [ROLL-DOWN]

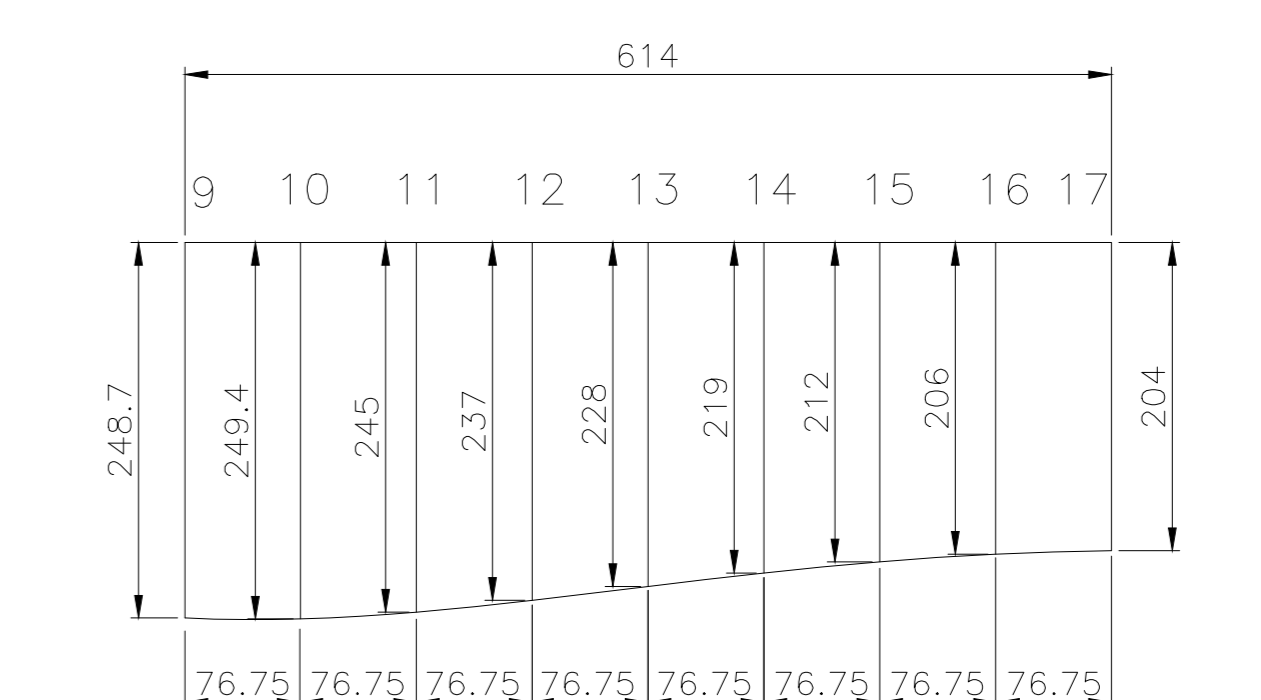


DEVELOPMENT DETAIL OF ITEM-24  
ITEM-24a [ROLL-UP]  
ITEM-24b [ROLL-DOWN]

(DEVELOPMENT OF OUTER WALL (CYLINDER) QUADRANTS)

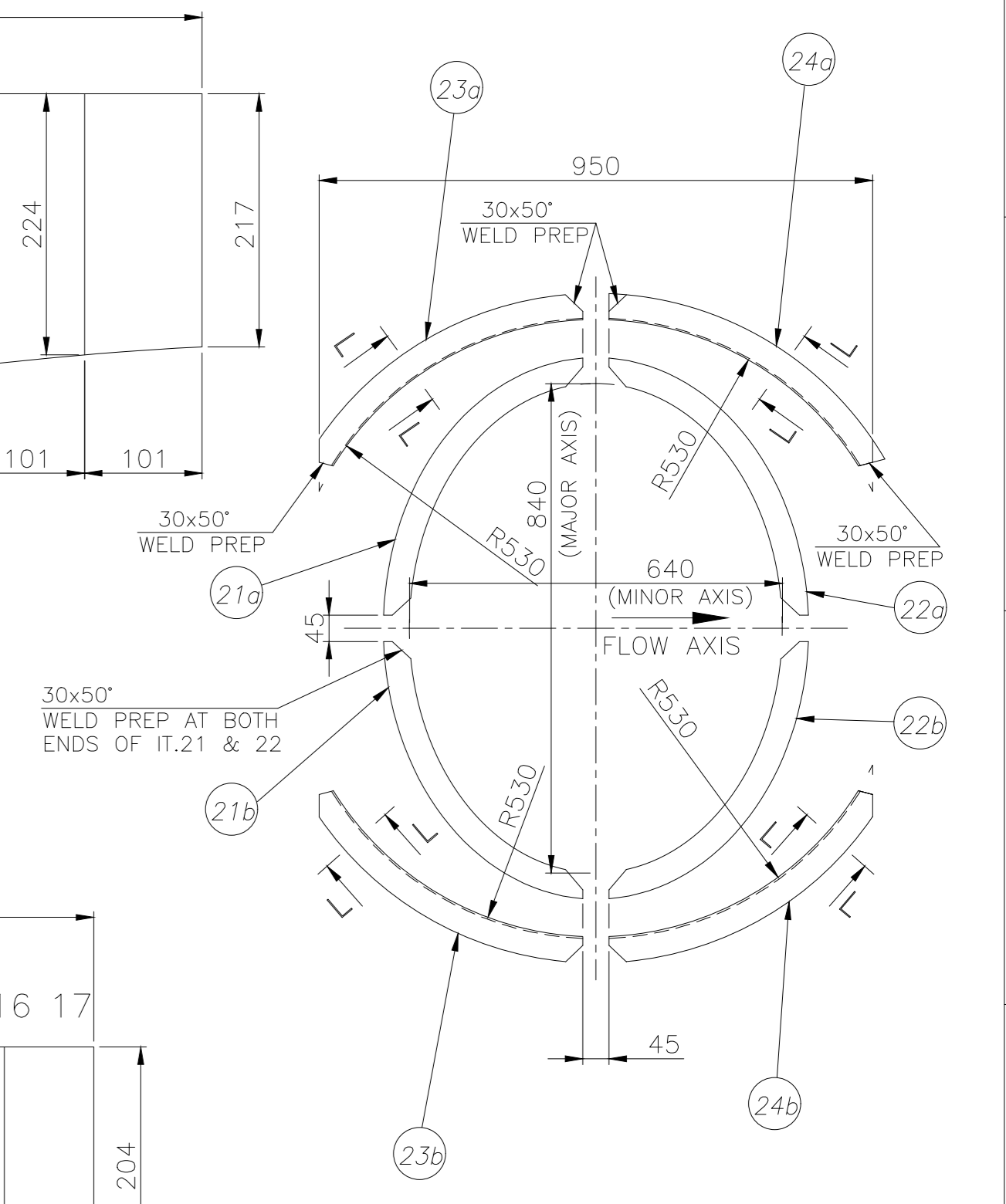


DEVELOPMENT DETAIL OF ITEM-21  
ITEM-21a [ROLL-UP]  
ITEM-21b [ROLL-DOWN]

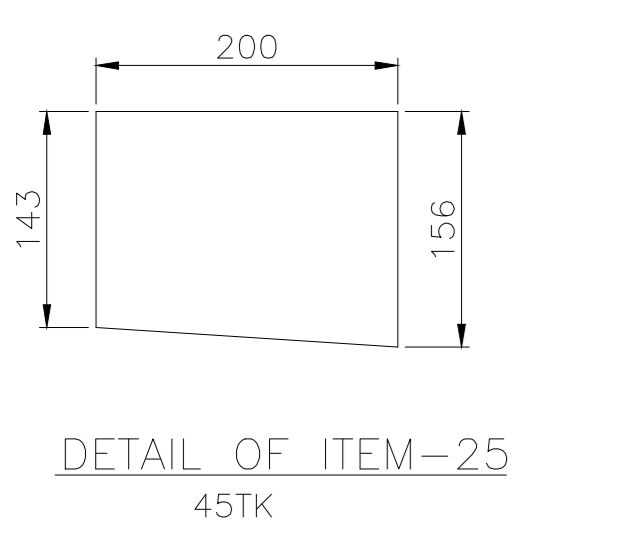


DEVELOPMENT DETAIL OF ITEM-22  
ITEM-22a [ROLL-UP]  
ITEM-22b [ROLL-DOWN]

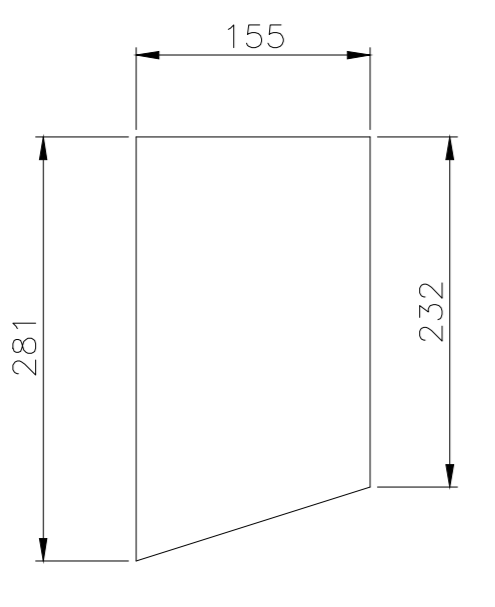
(DEVELOPMENT OF INNER WALL (ELLIPSE) QUADRANT)



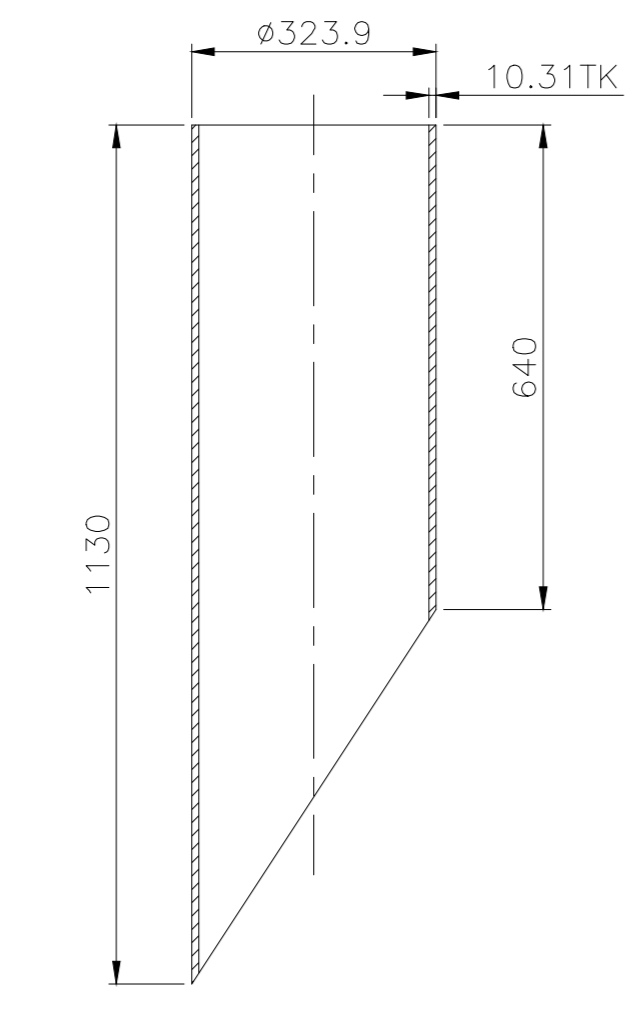
SECTION-LL  
SCALE 1:5  
(EDGE PREPARATION DETAIL FOR ITEM NOS. 23a,23b,24a&24b)



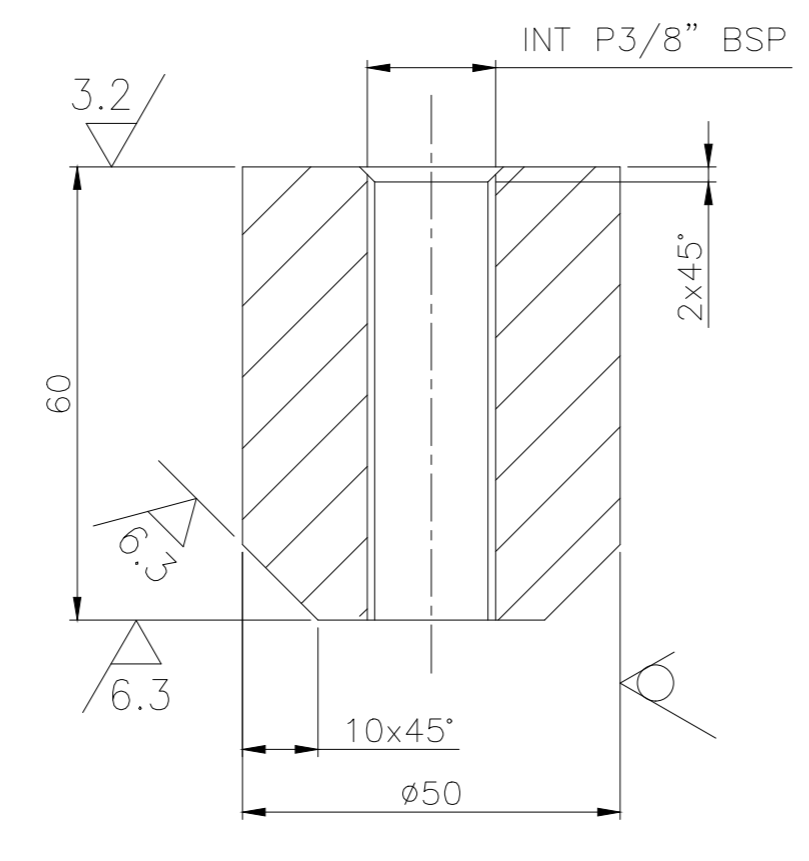
DETAIL OF ITEM-25  
45TK



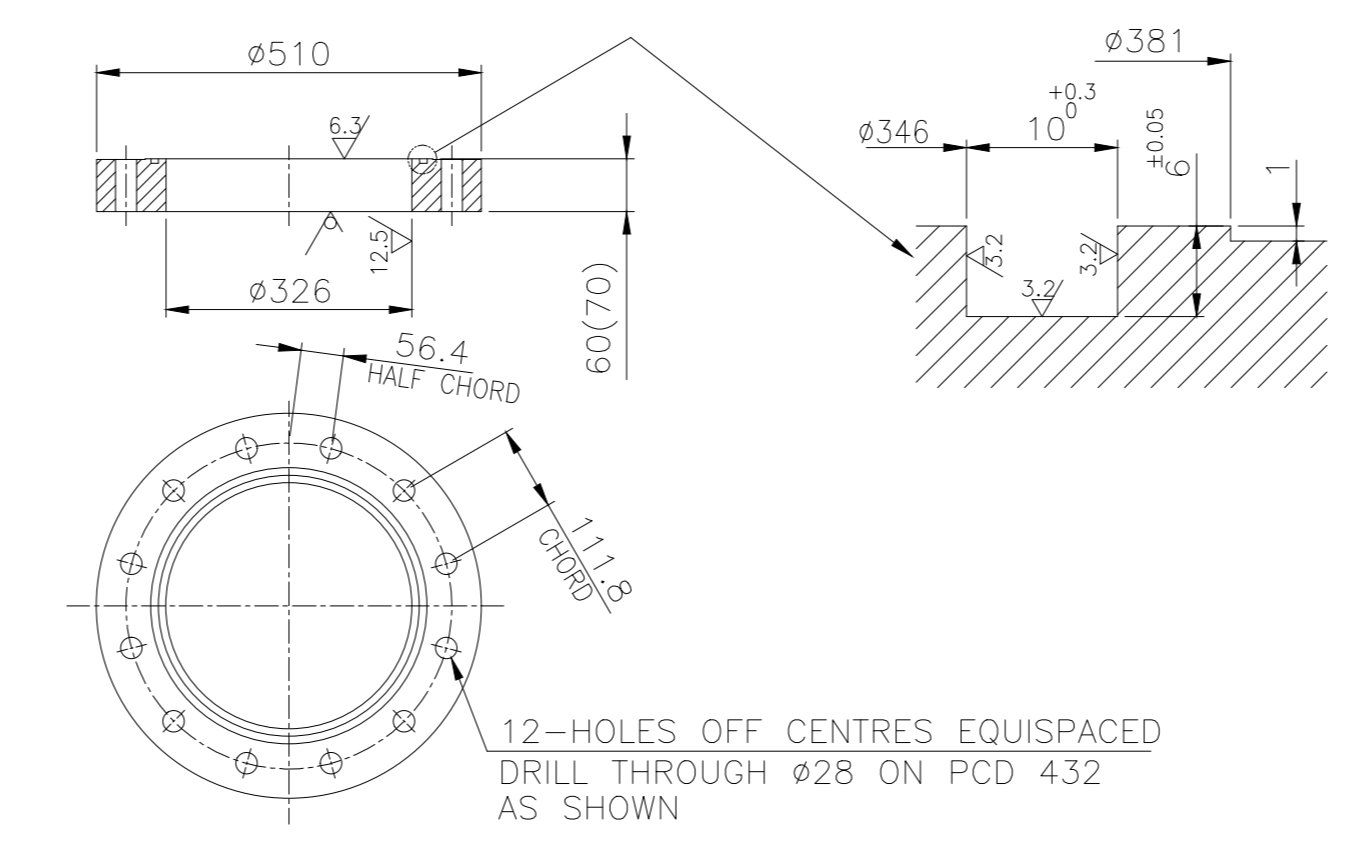
DETAIL OF ITEM-27  
45TK



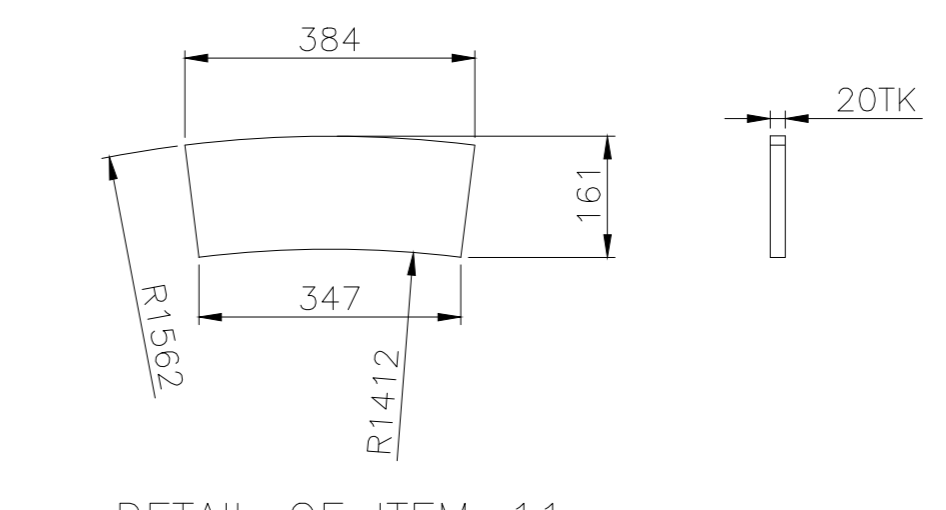
DETAIL OF ITEM-6



DETAIL OF ITEM-8  
SCALE 1:2



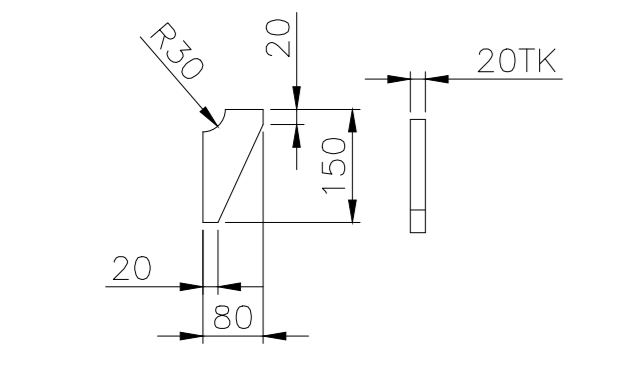
DETAIL OF ITEM-007



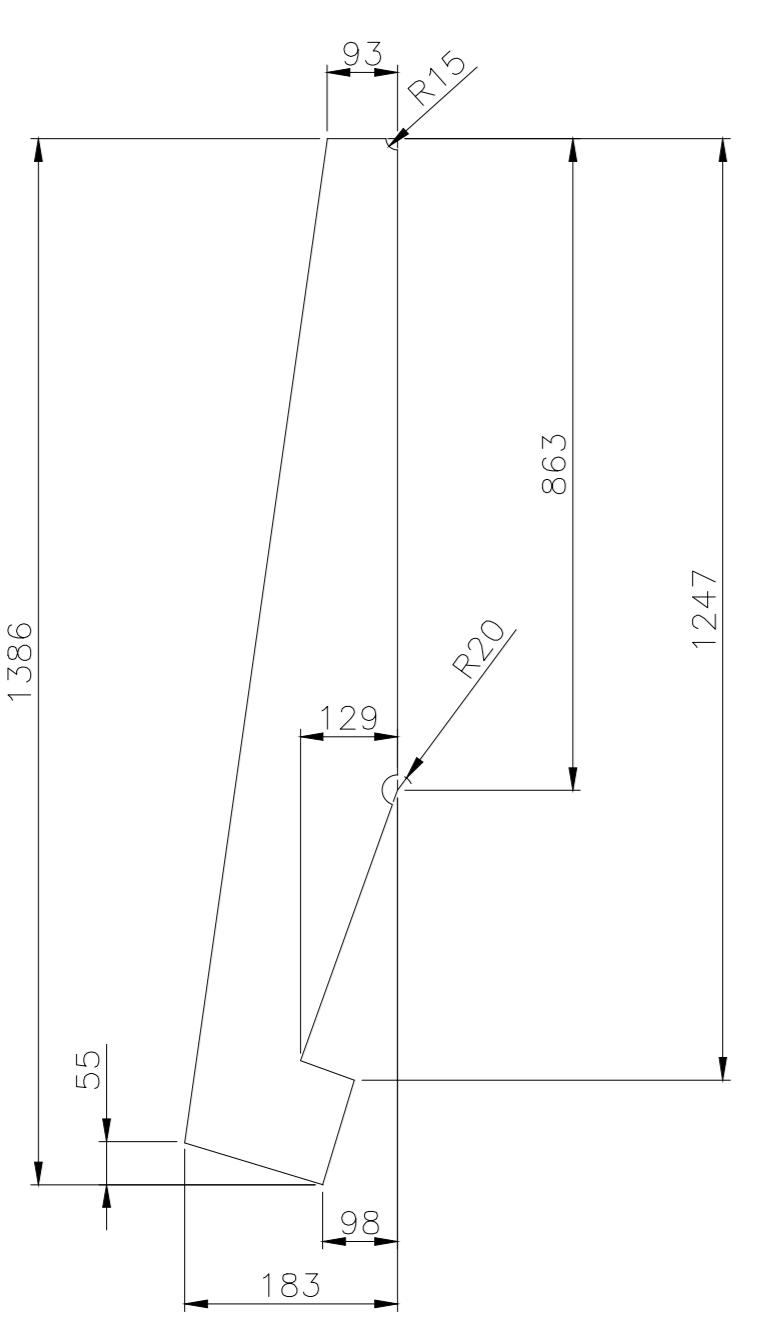
DETAIL OF ITEM-11  
SCALE 1:10



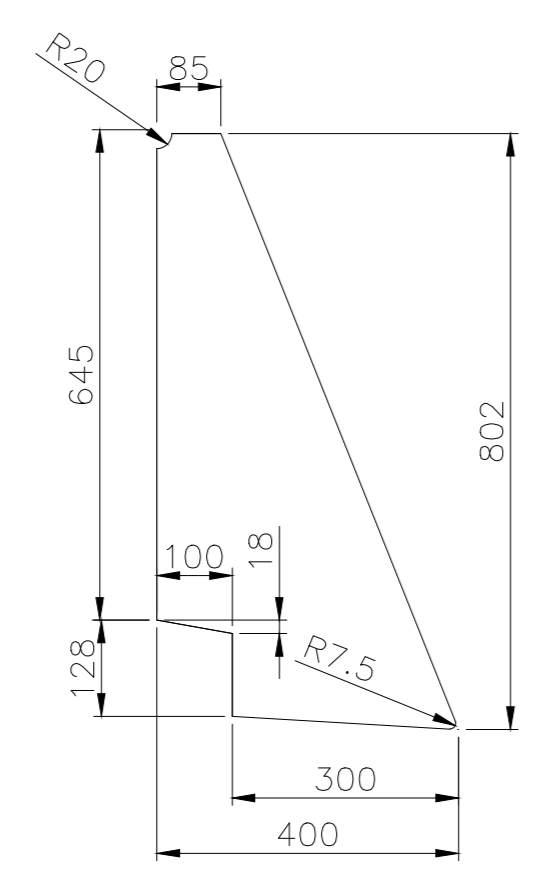
DETAIL OF ITEM-26  
45TK



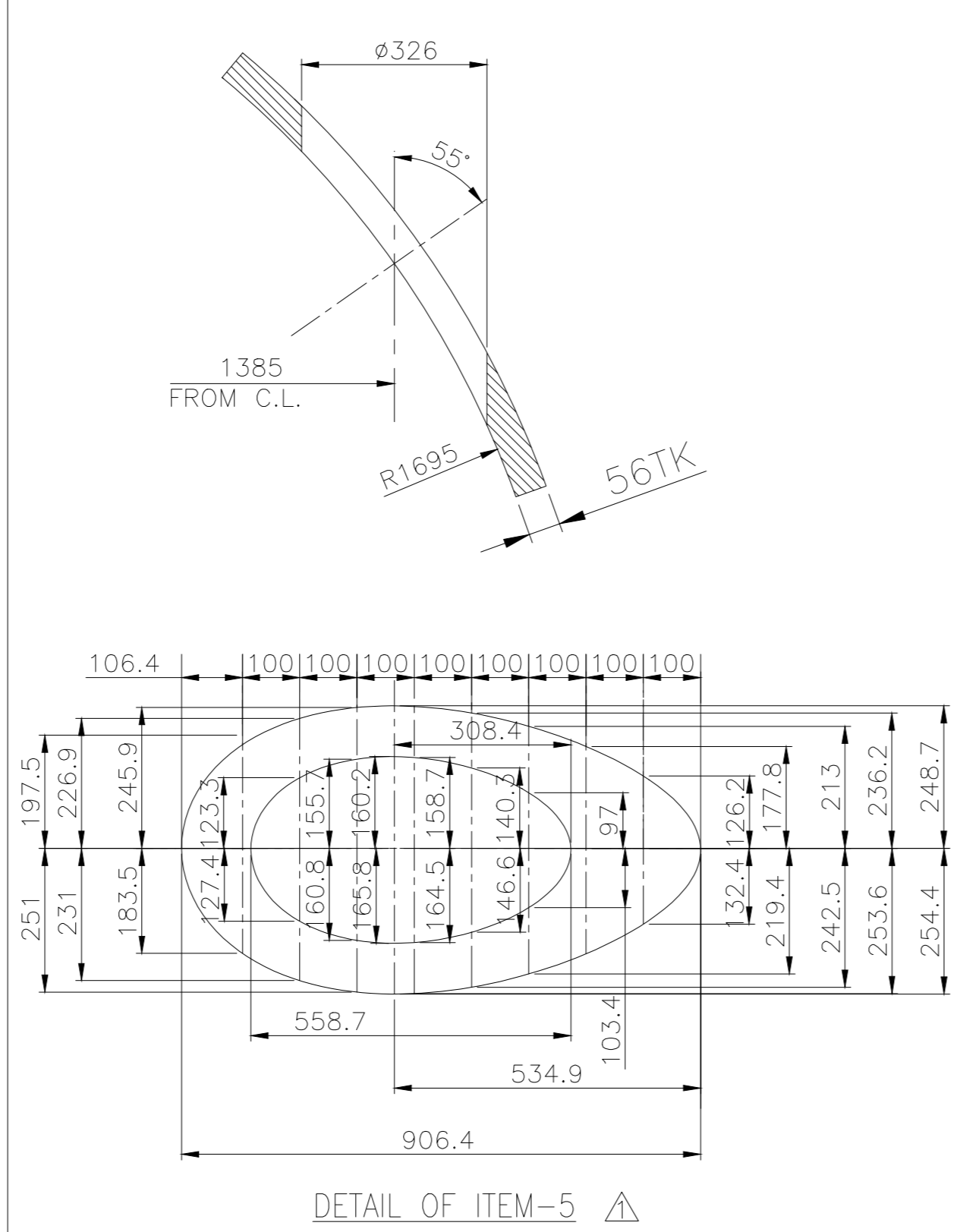
DETAIL OF ITEM-02  
(20TK)



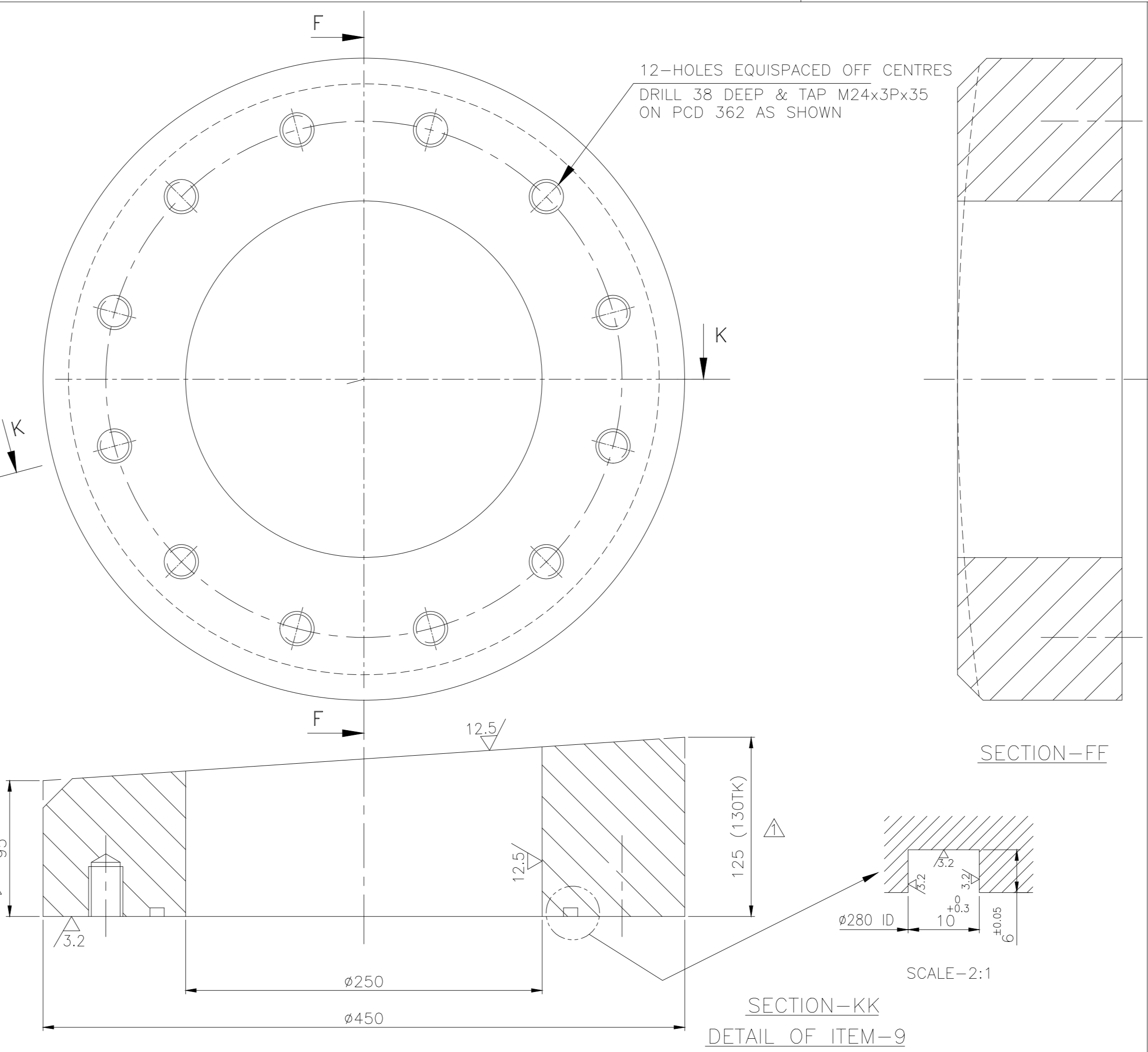
DETAIL OF ITEM-15  
(SCALE 1:10)  
20TK



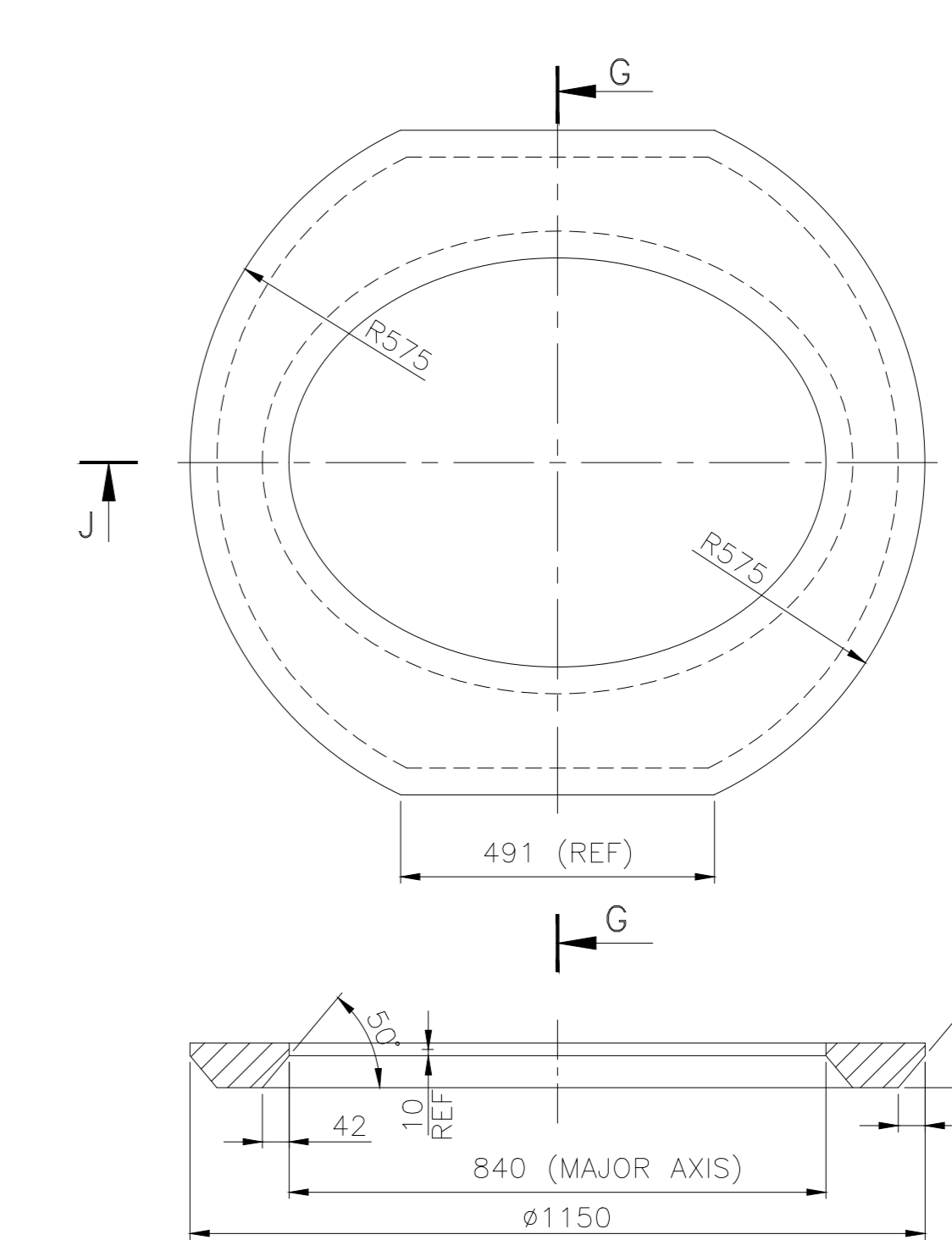
DETAIL OF ITEM-16  
(SCALE 1:10)  
20TK



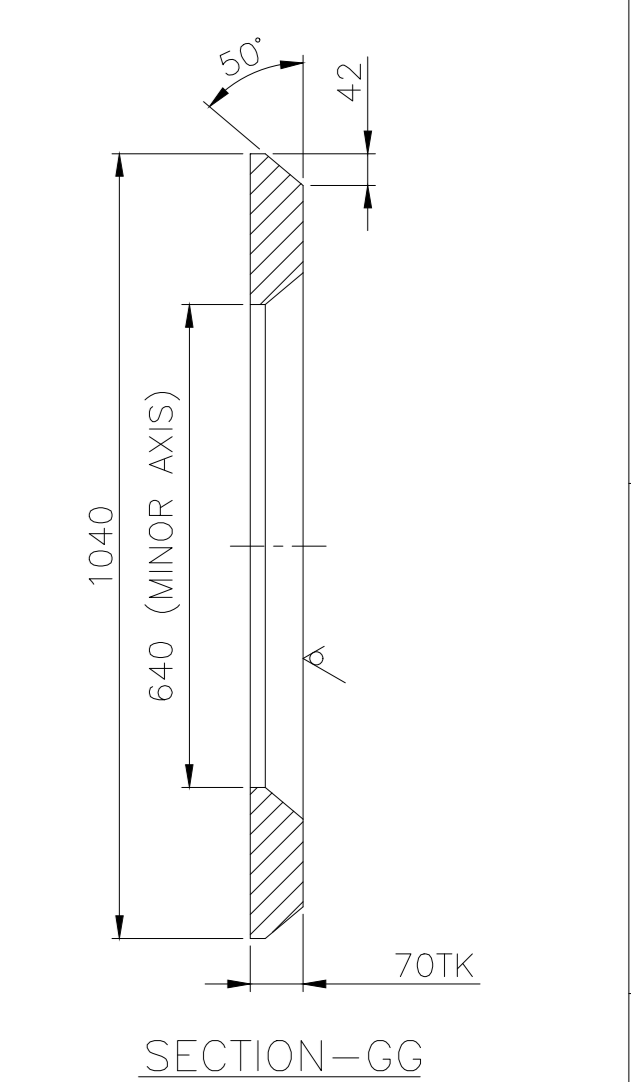
DETAIL OF ITEM-5



SECTION-KK  
DETAIL OF ITEM-9  
SCALE 1:2.5



SECTION-JJ  
DETAIL OF ITEM-4

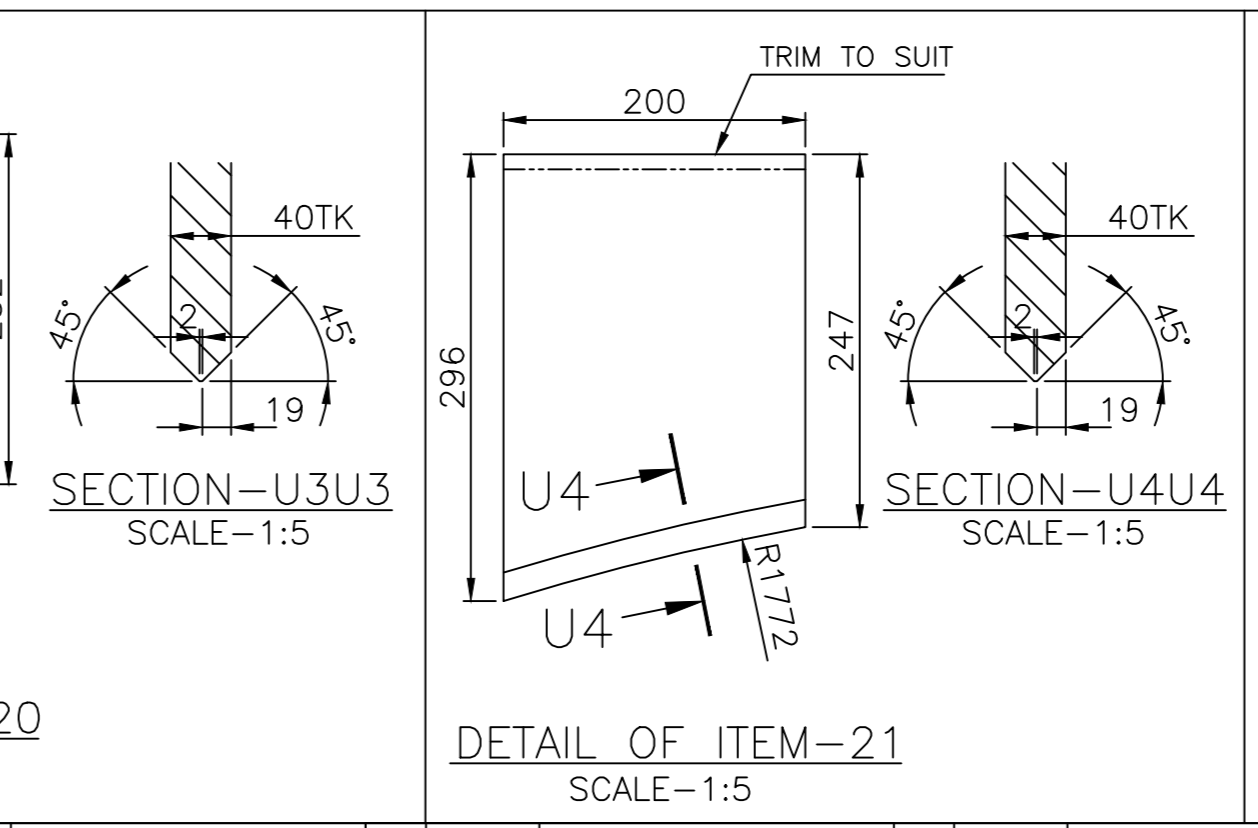
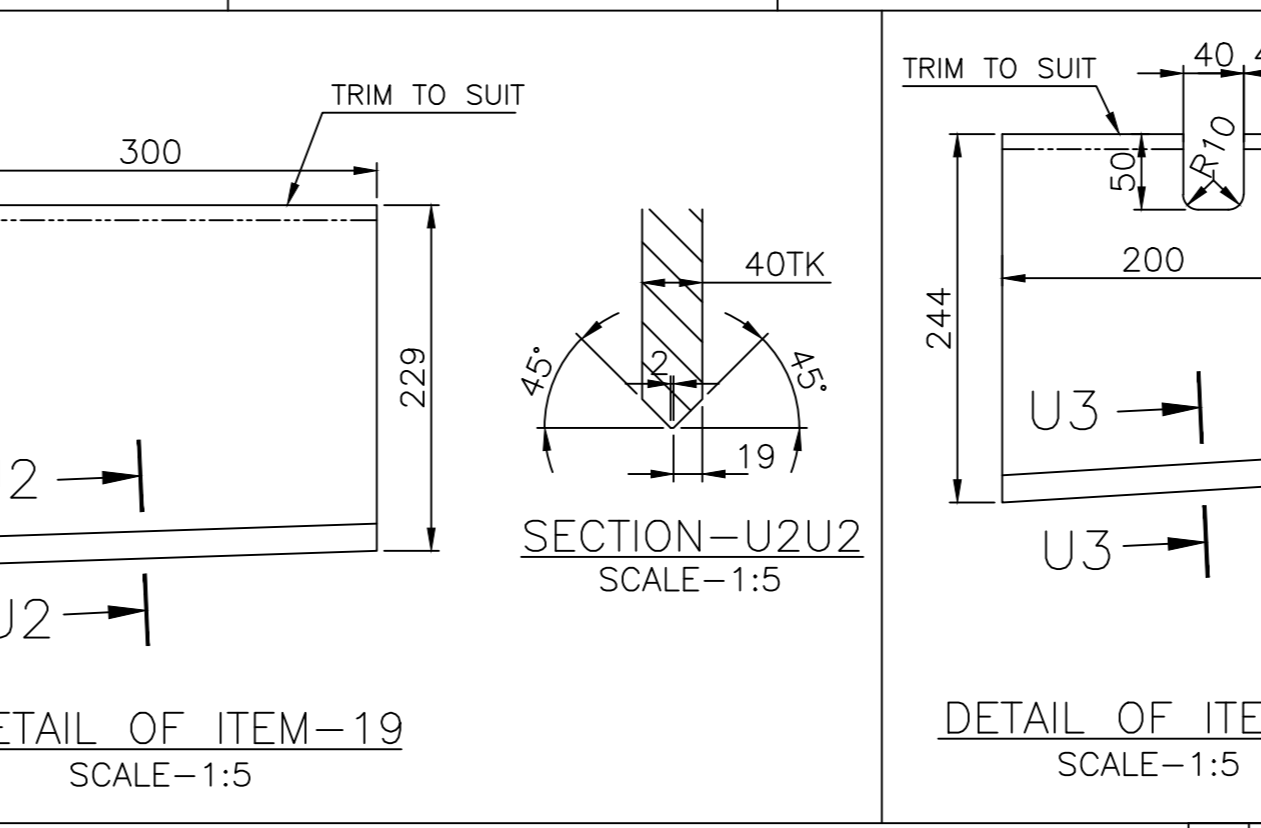
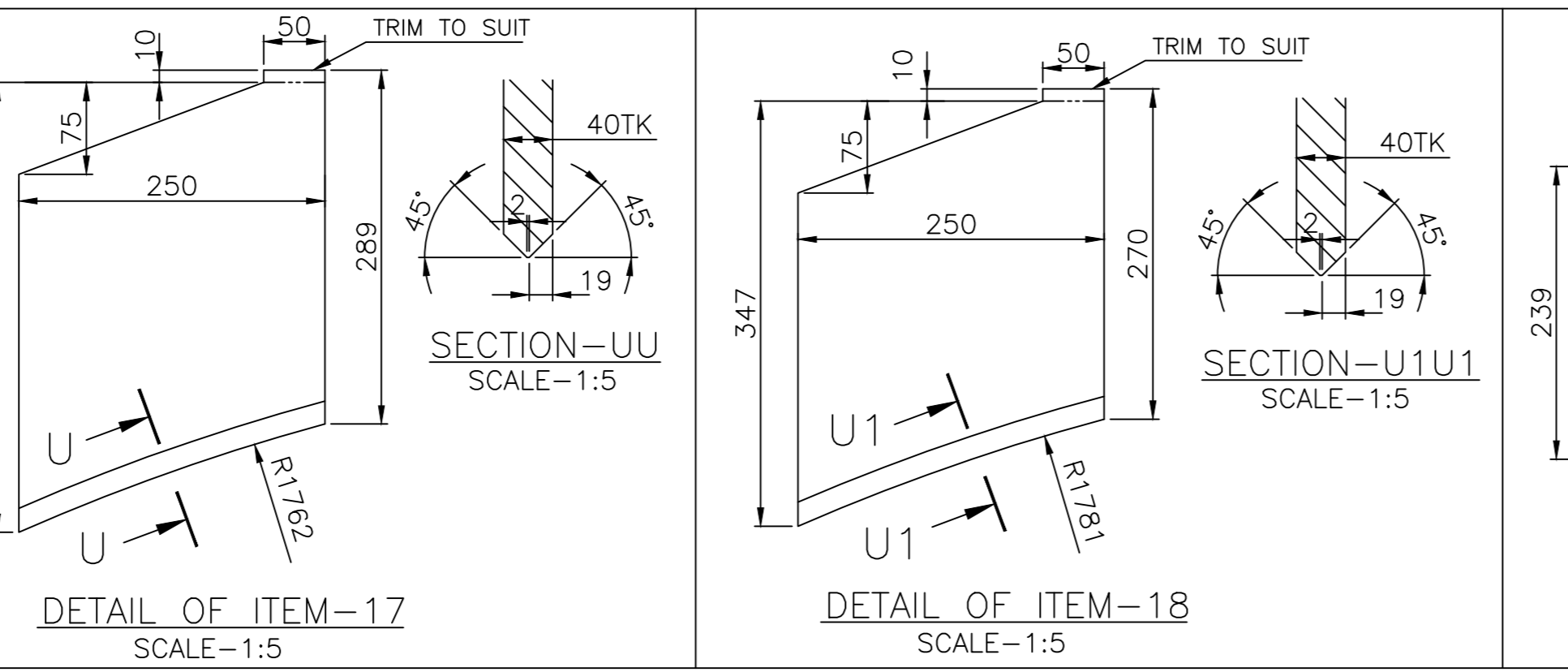
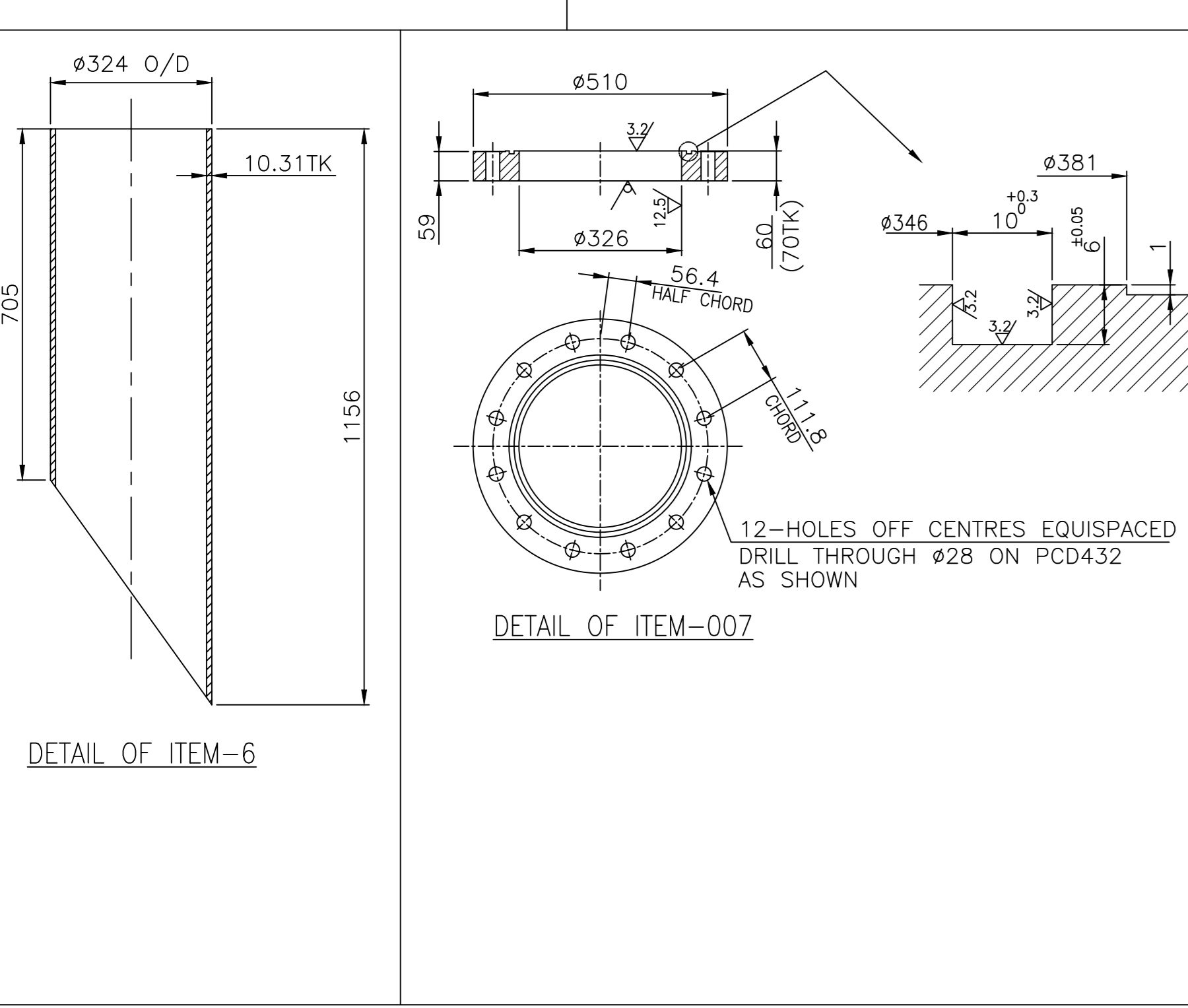
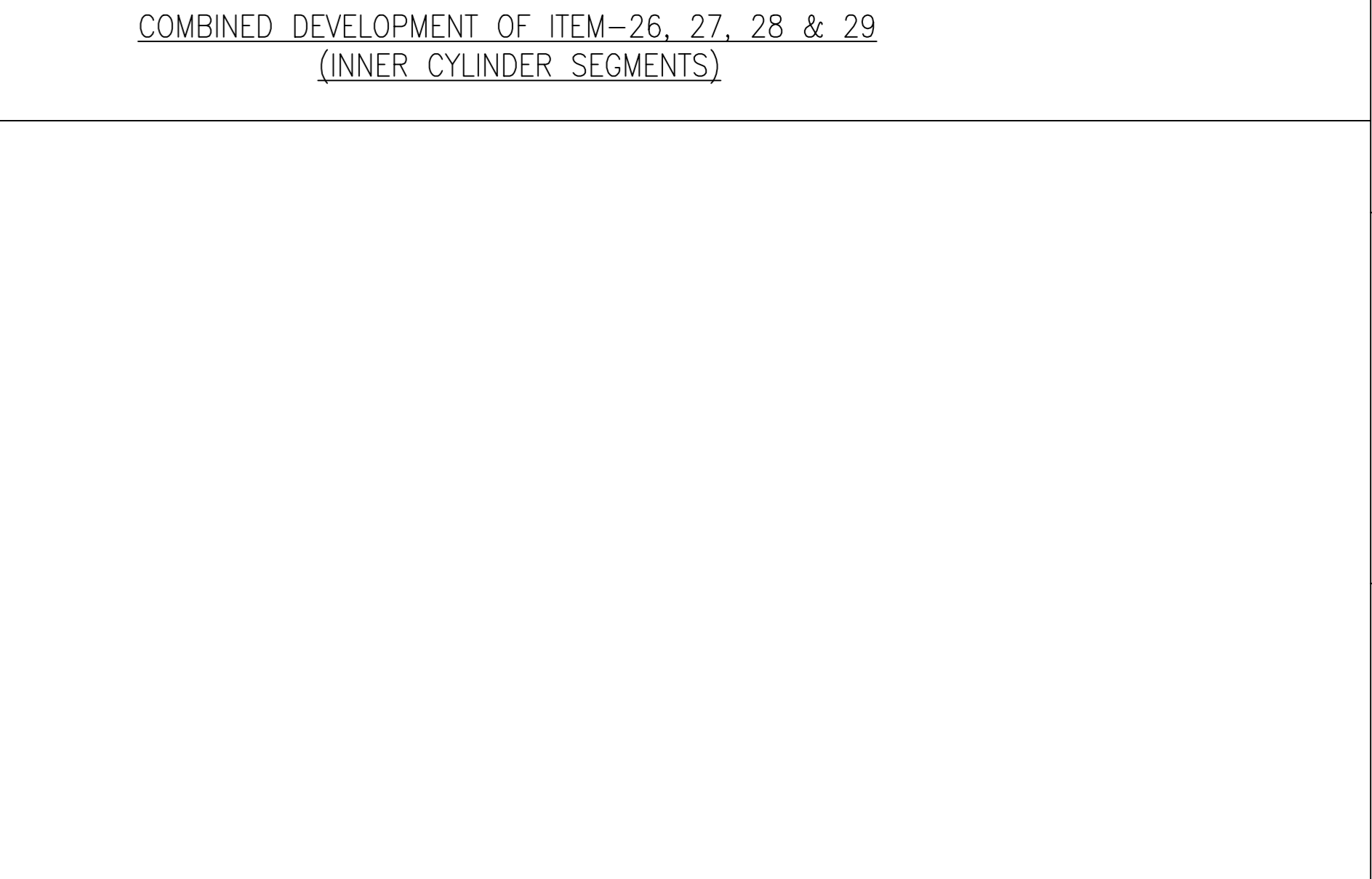
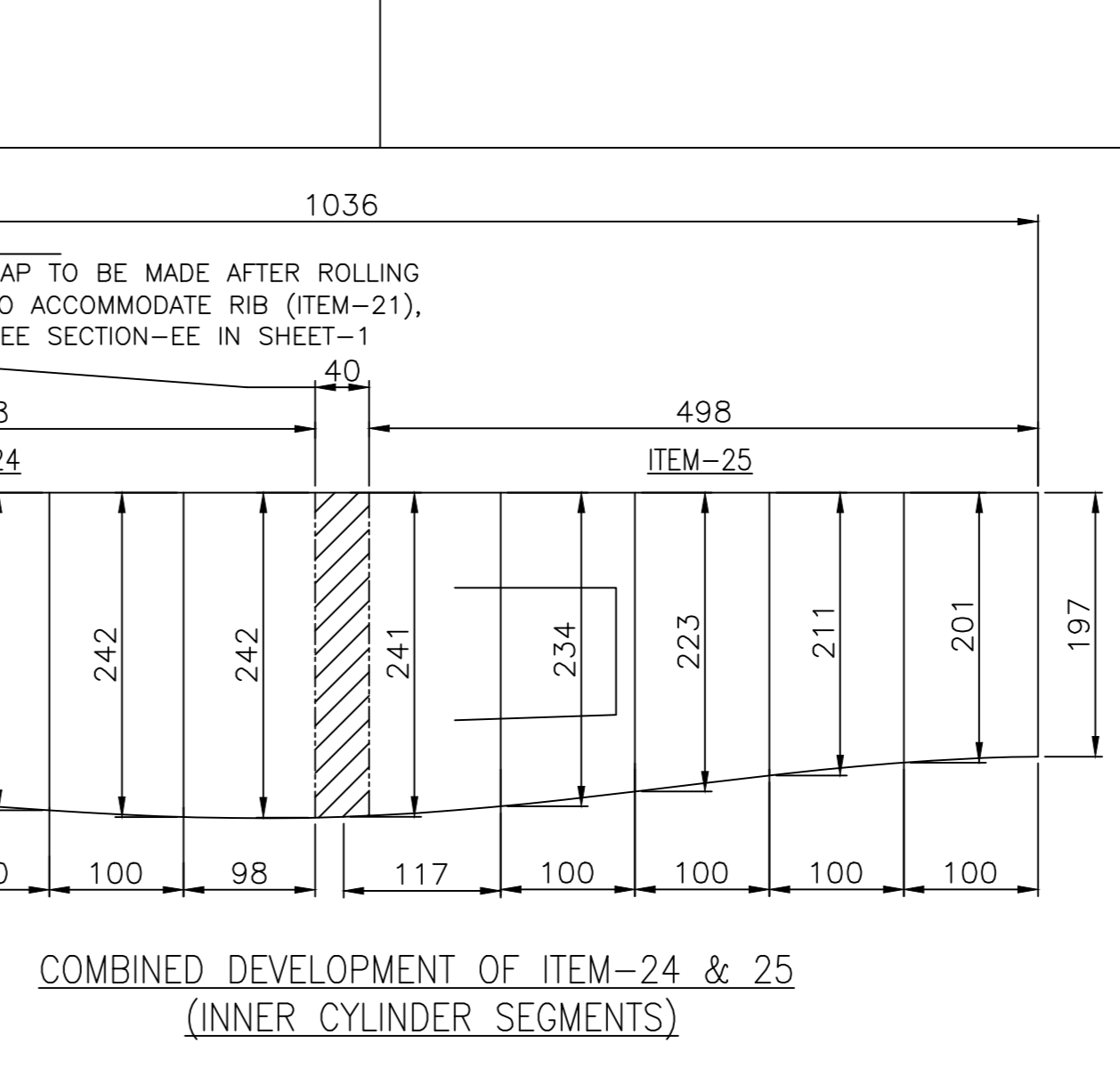
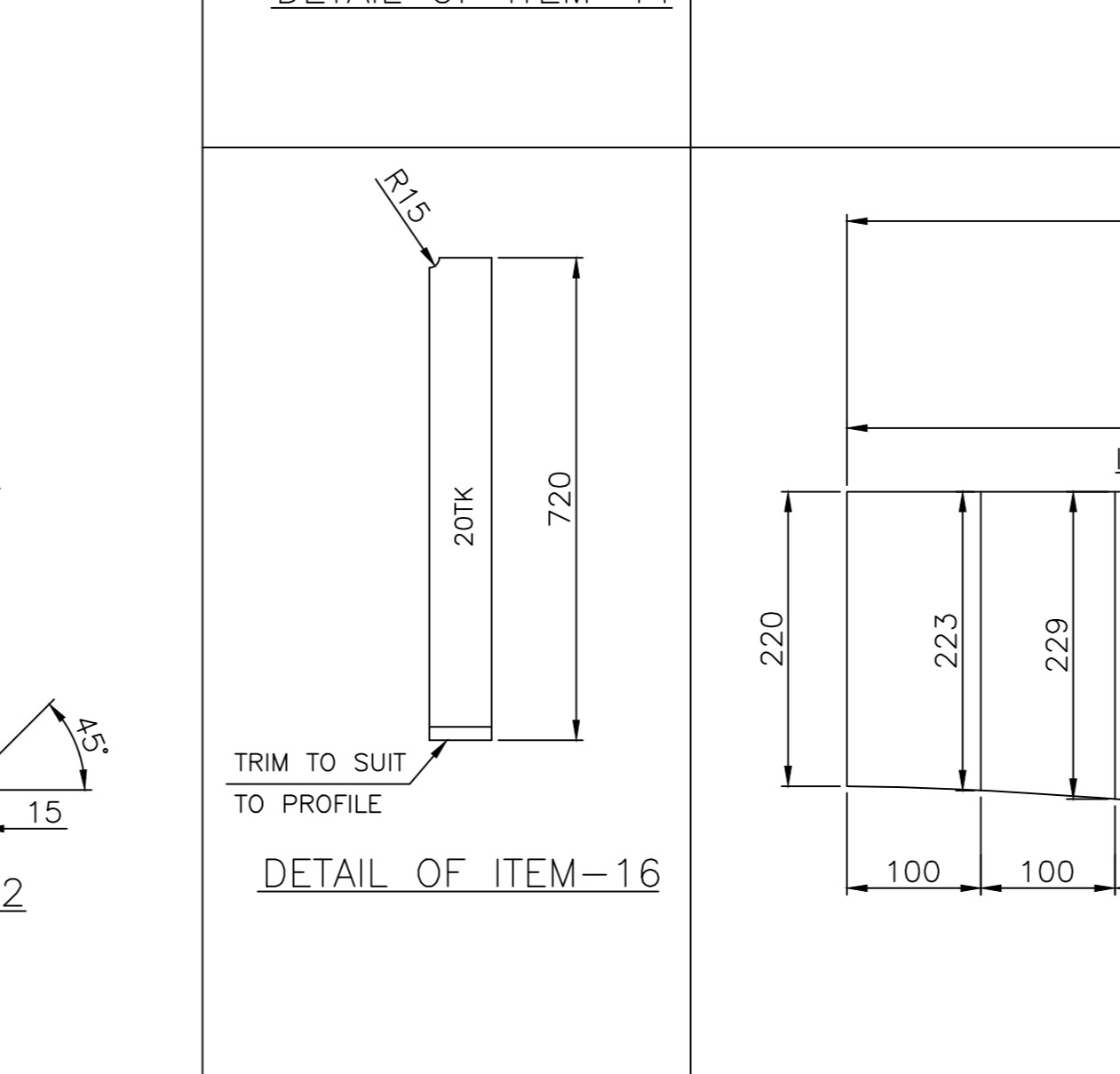
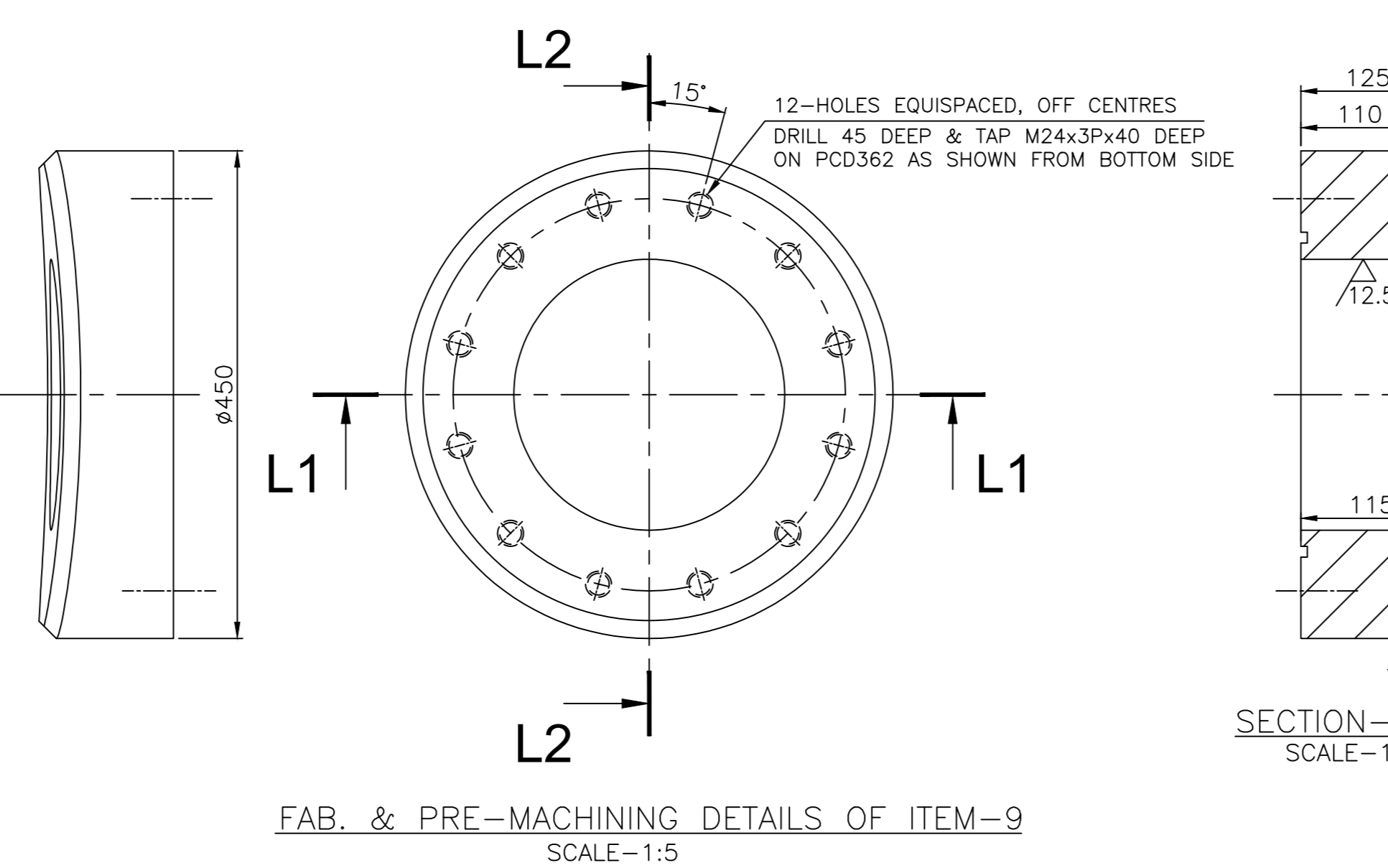
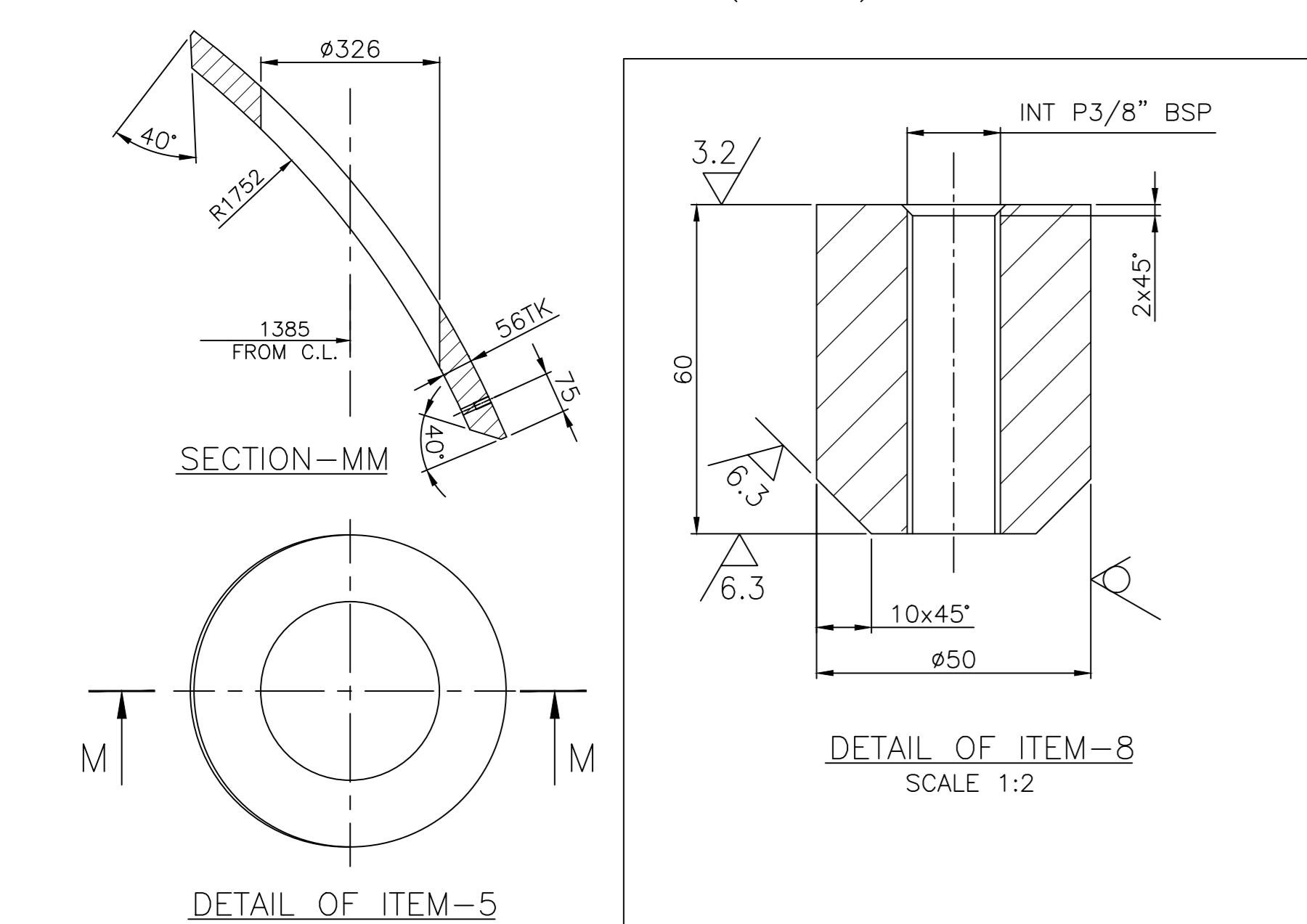
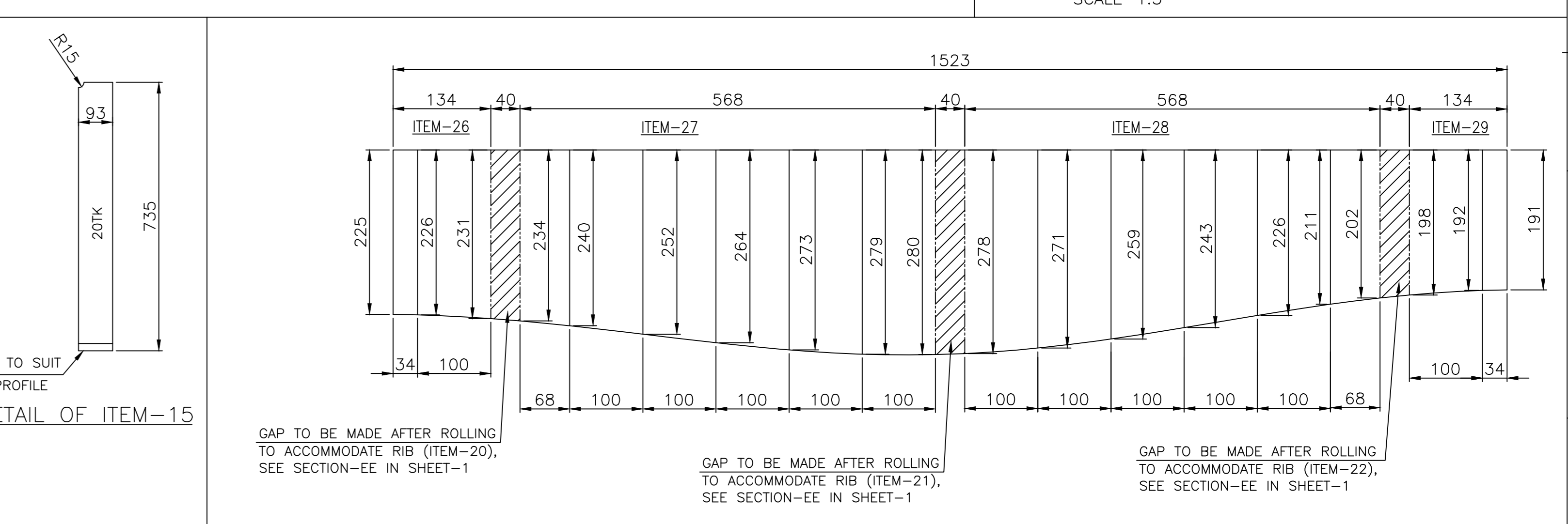
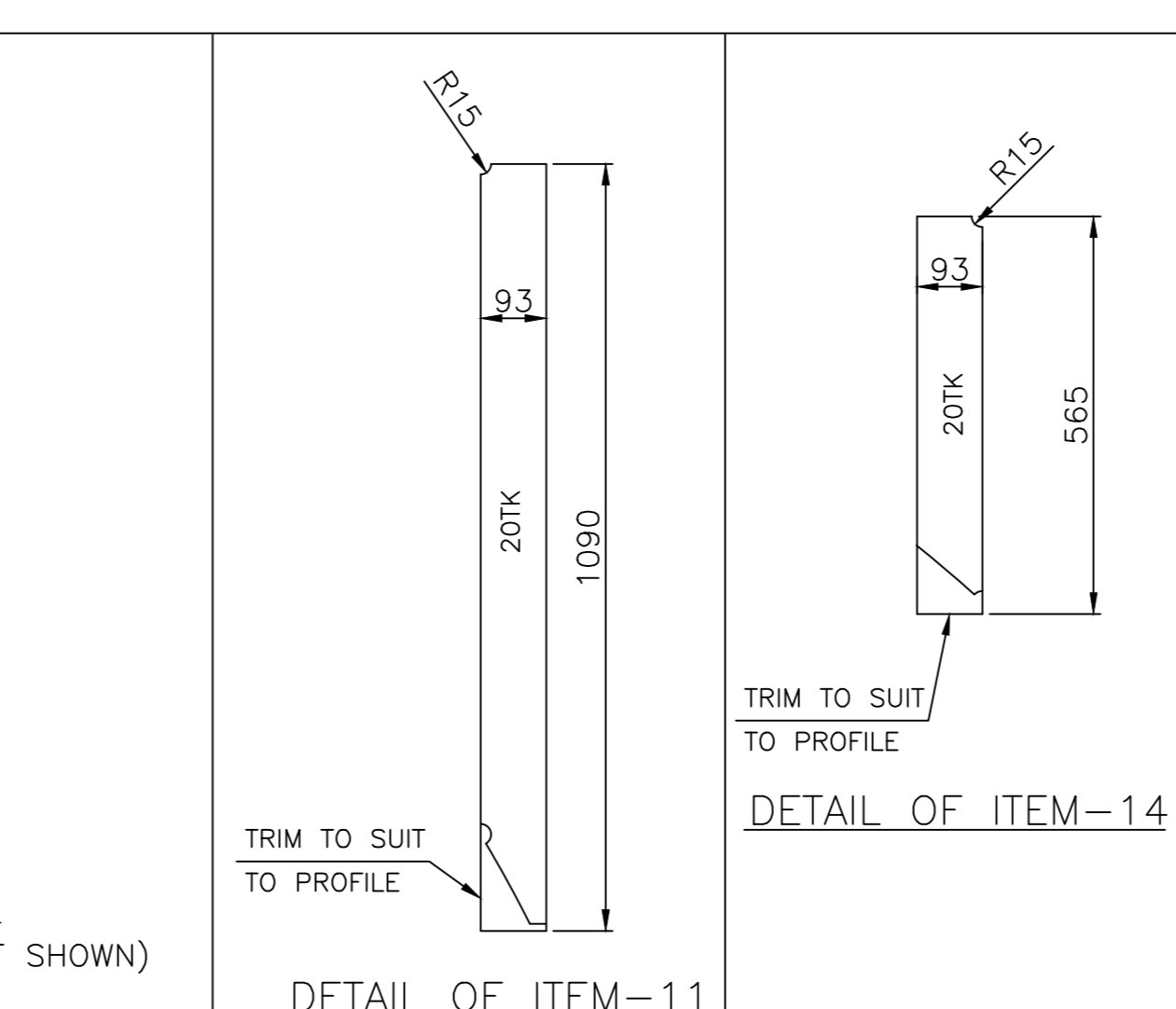
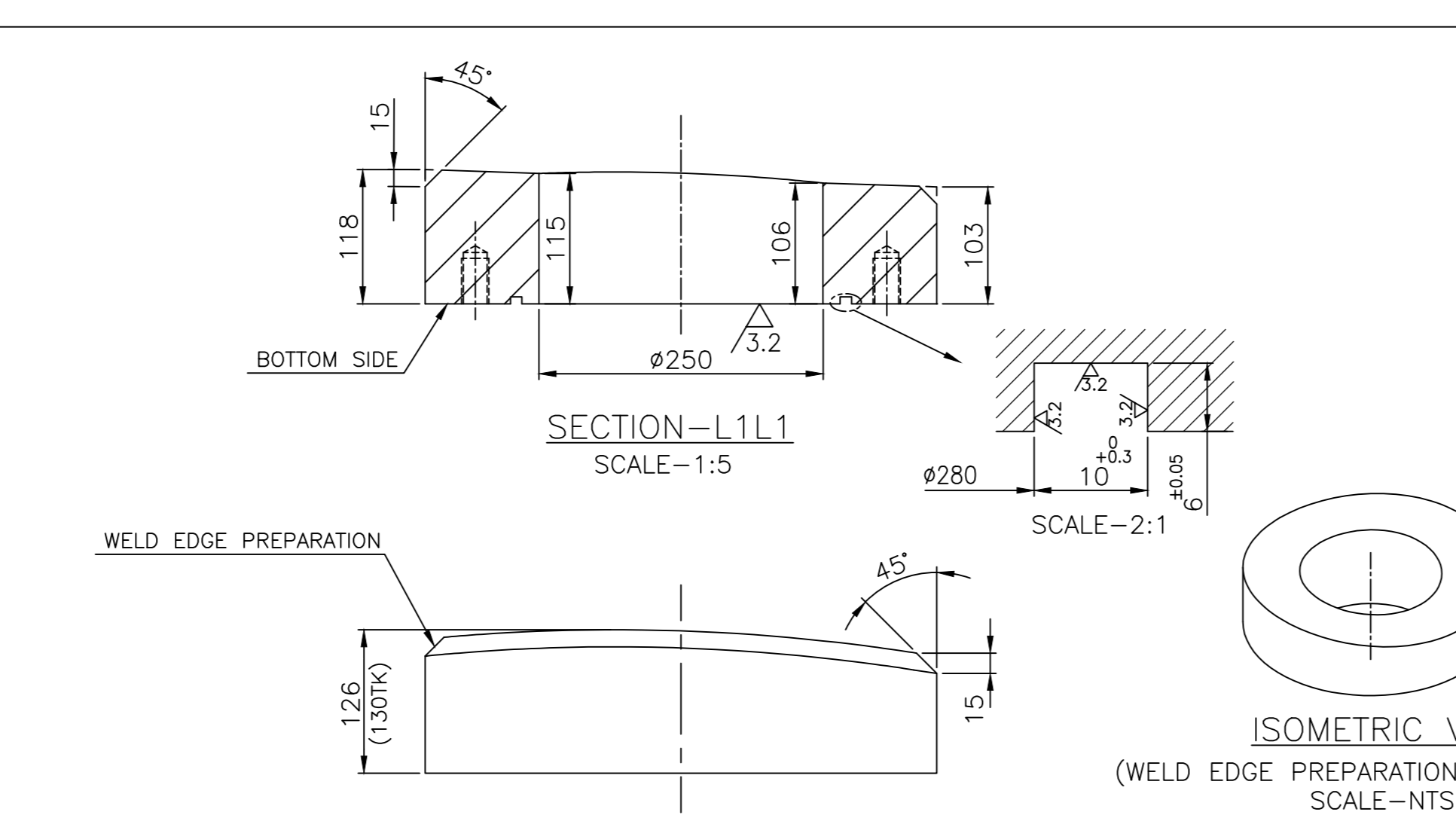
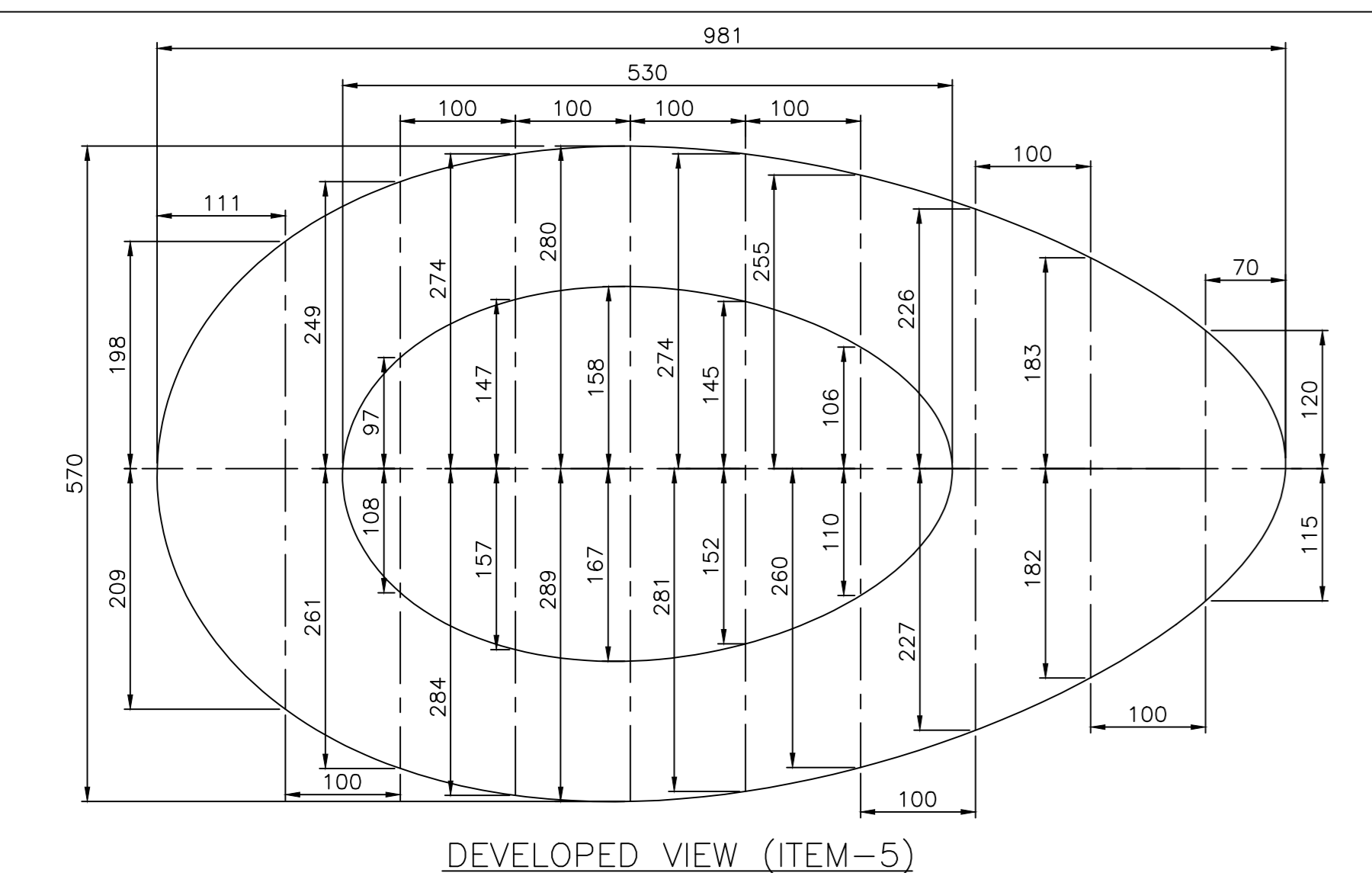
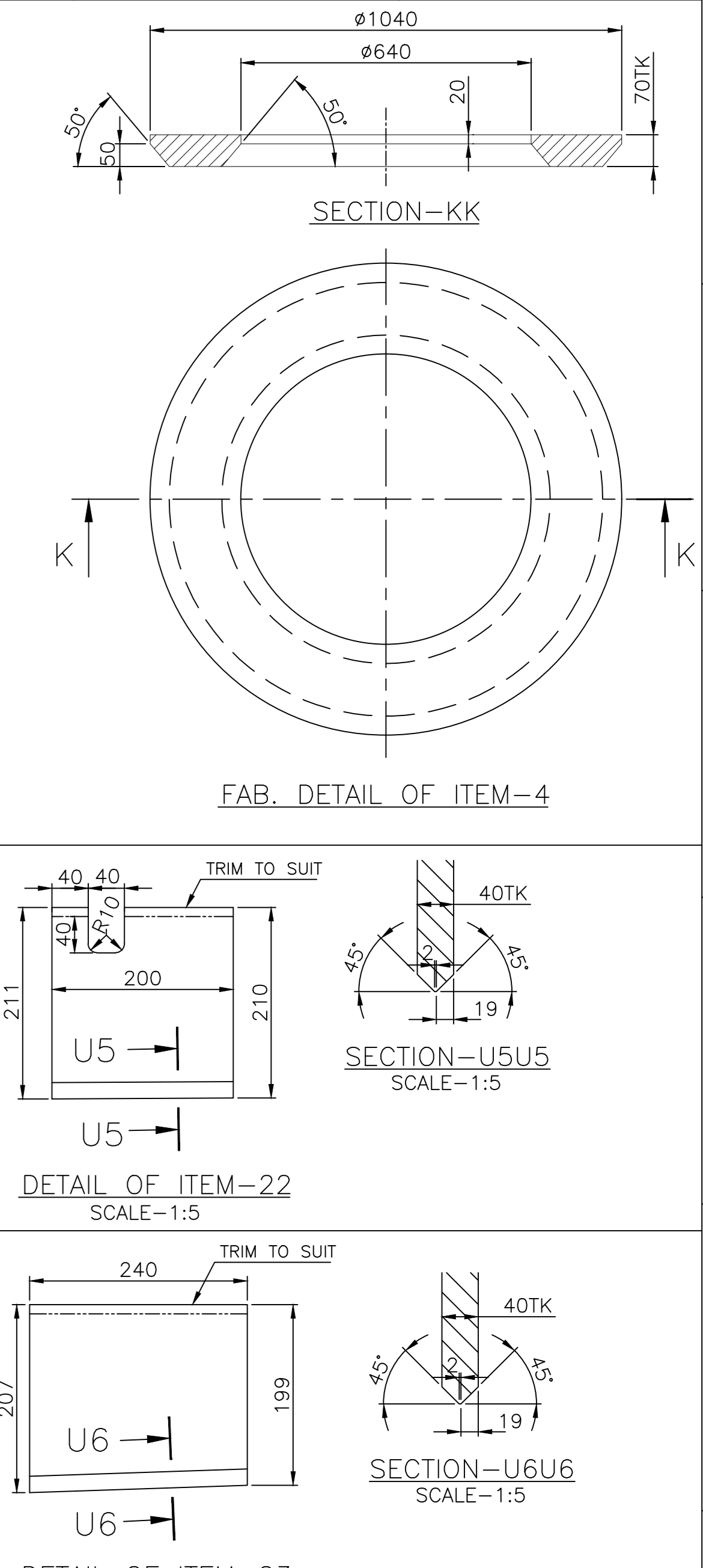
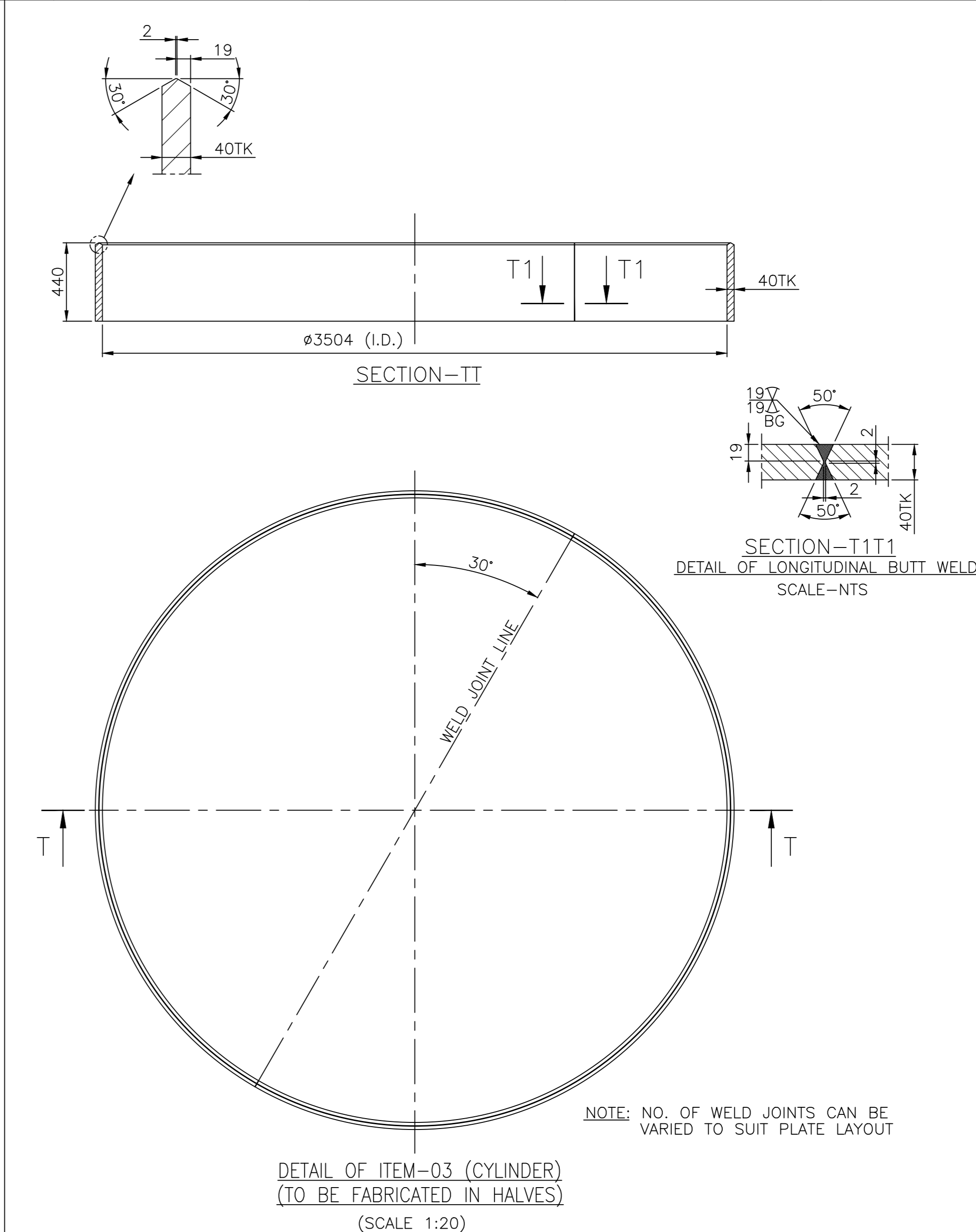
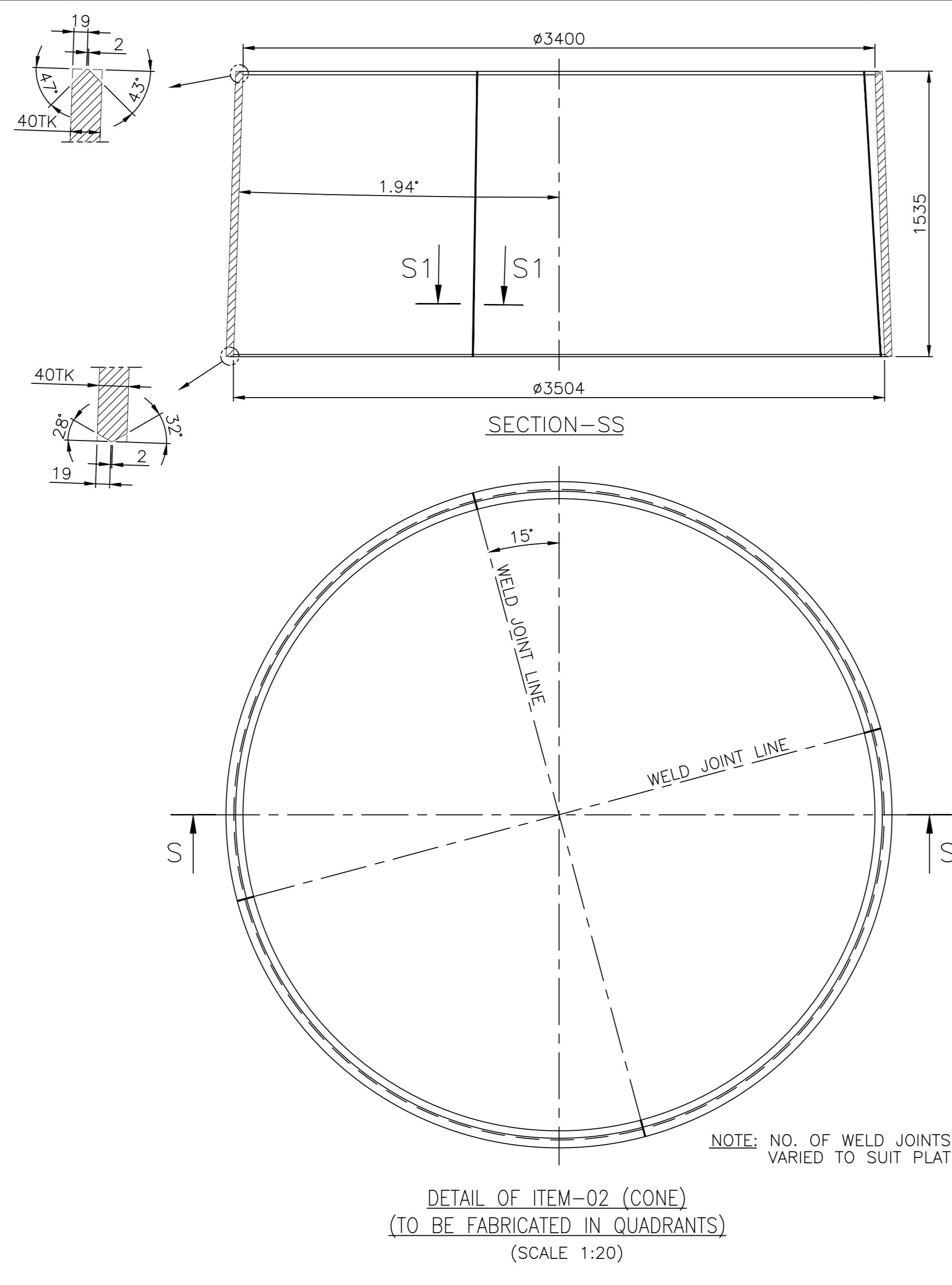
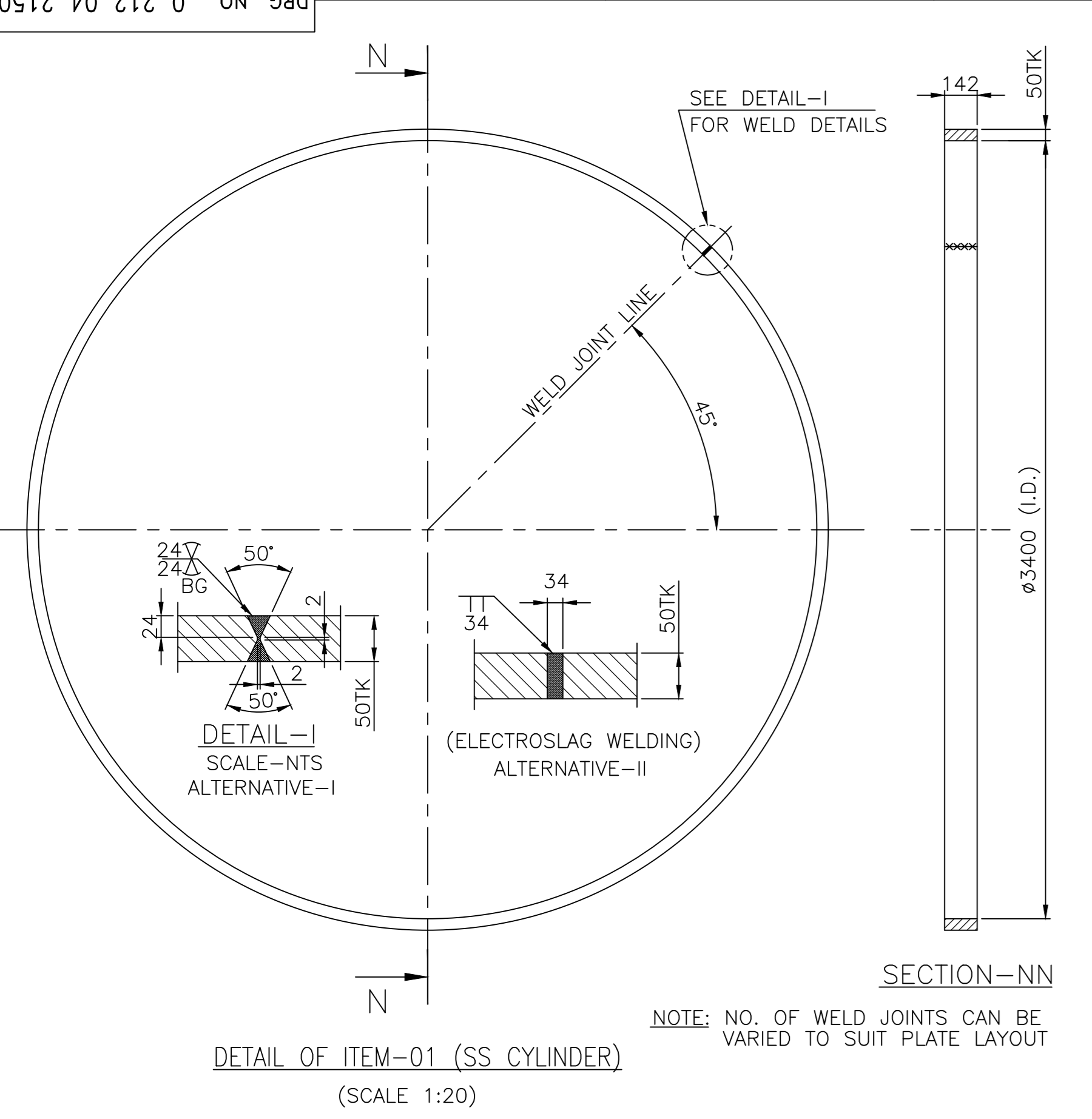


SECTION-GG

VAR. NO.	REMARKS	DATE	BY	CHKD.	DESCRIPTION	SCALE	WEIGHT	NO. OF SHEETS	NO. OF SHEETS
01		03.10.21	SKP	SKP	FOR ITEM-5 DEVELOPMENT VIEW	1:10	0.212042010	001	03
02		01.04.21	SKP	SKP	FOR REVISION DETAIL SEE SHEET-1. (NO CHANGE IN SHEET-2)	1:10	0.212042010	001	03
03		19.06.21	SKP	SKP	SECTION-LL ADDED. (EDGE PREPARATION DETAIL FOR ITEM NOS. 23&24). REVISION PLACE MARKED	1:5	0.212042010	001	03

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NO.	VAR.00	REMARKS	DATE	BY	CHKD	APPV	DESCRIPTION	STD.	DRAWING NO.	SCALE	WEIGHT/KG.	REF. TO ASSY DRG.	ITEM NO.	NO. OF SHEET
58									0 212 04 21502	1:10	SEE SHEET-1	0 212 04 21501	001	02

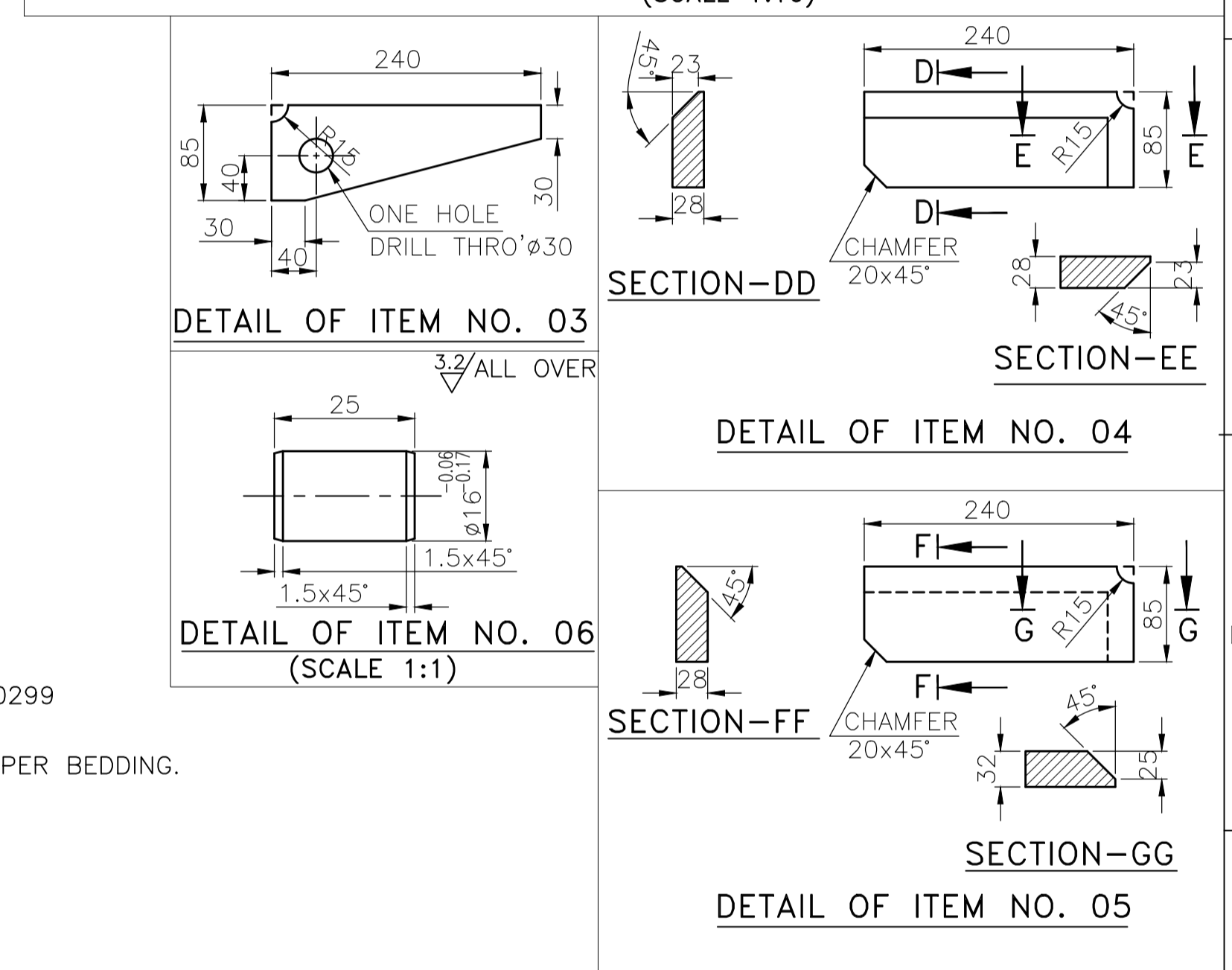
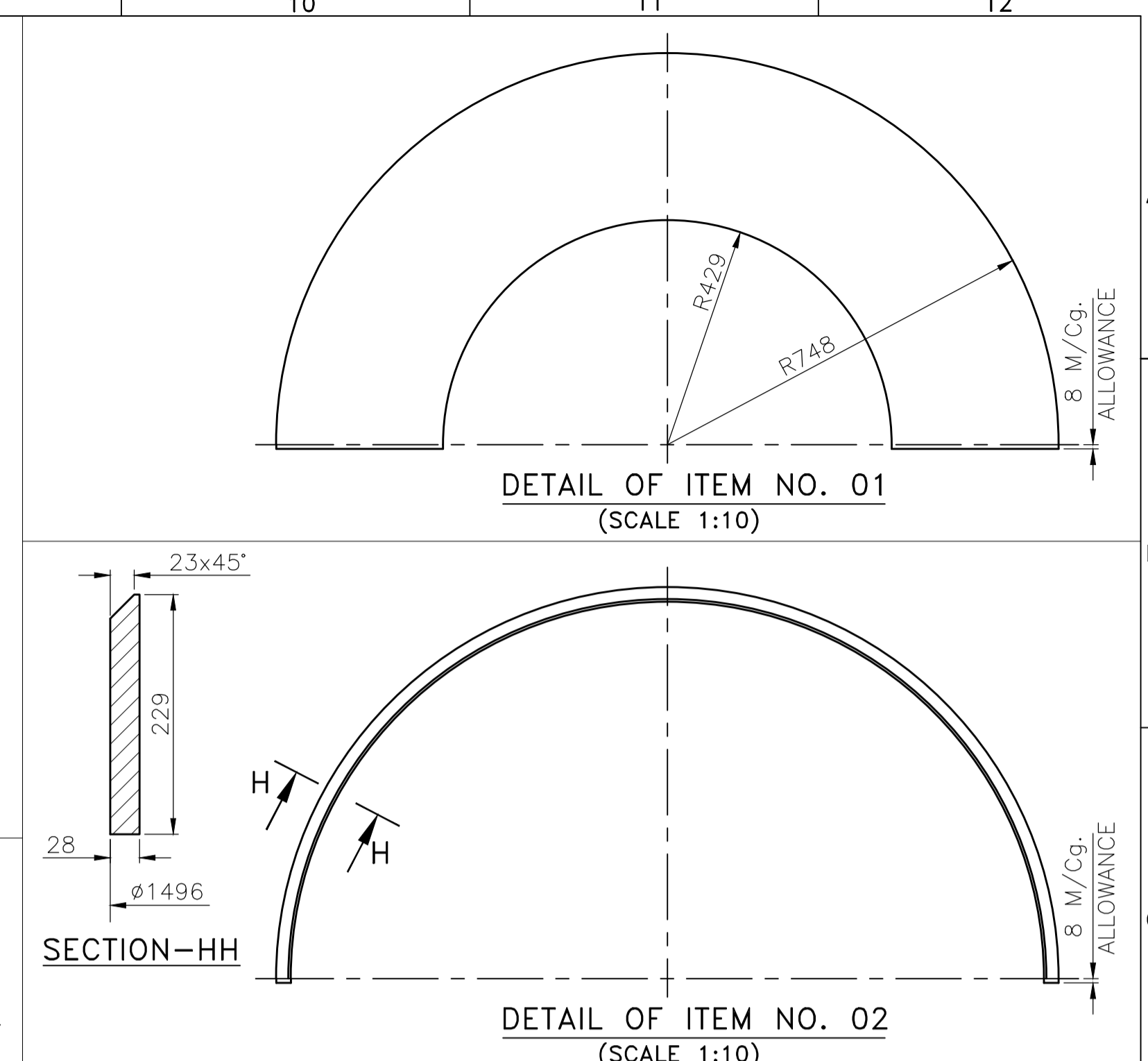
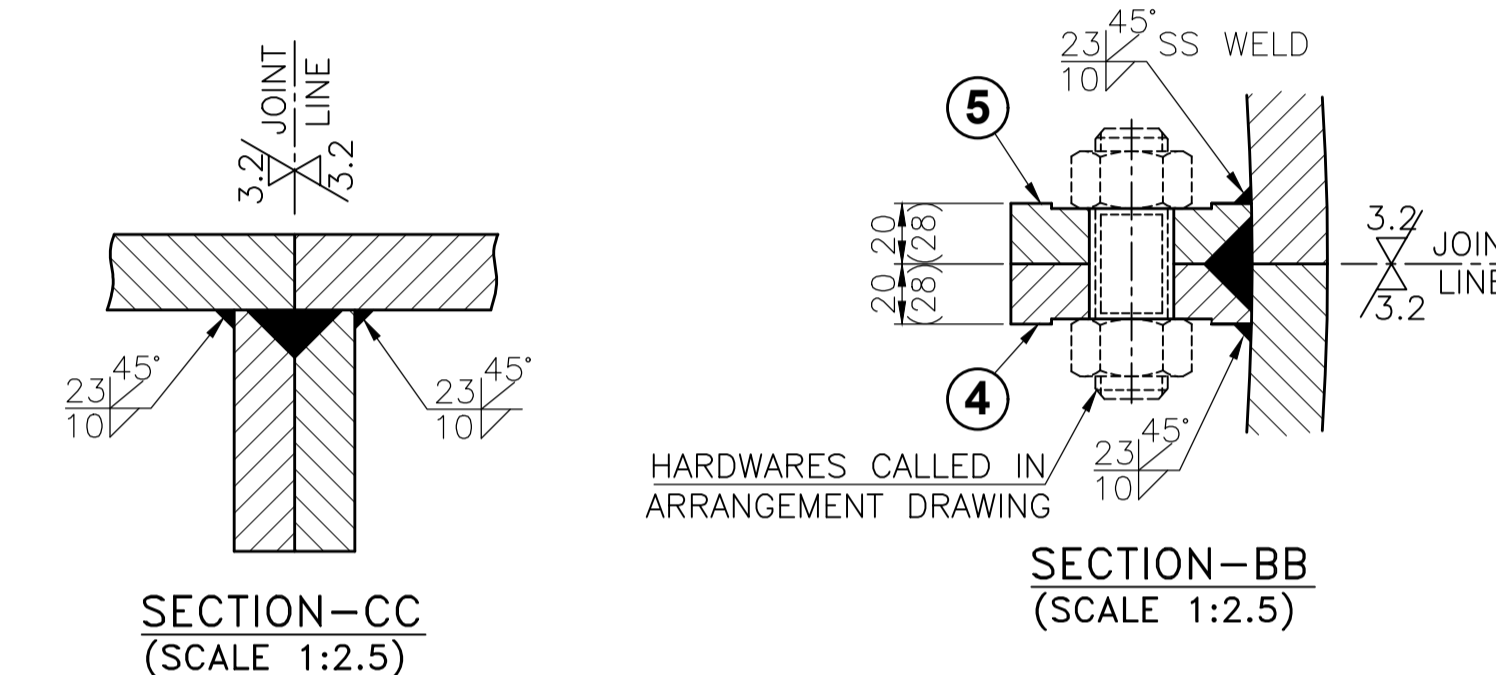
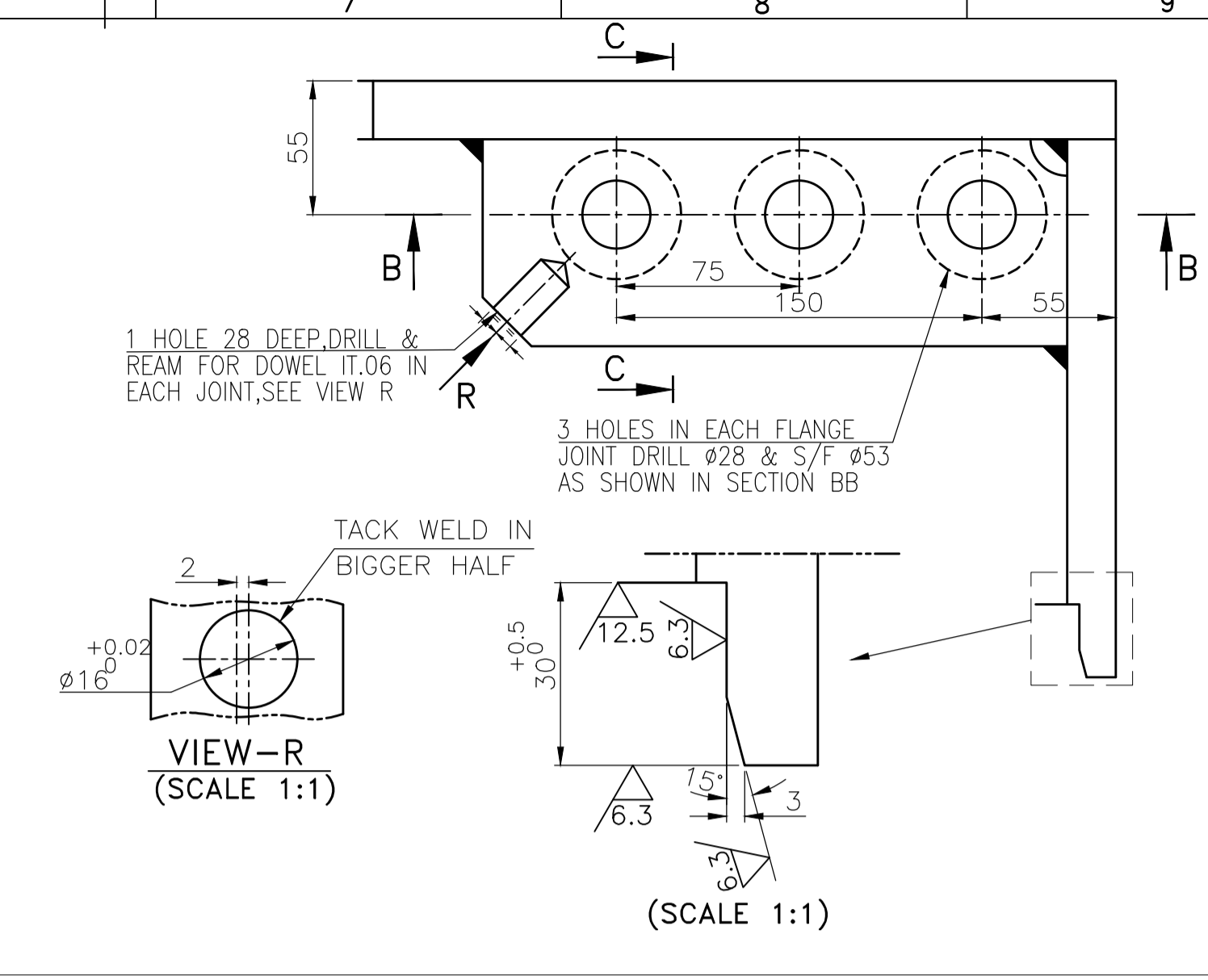
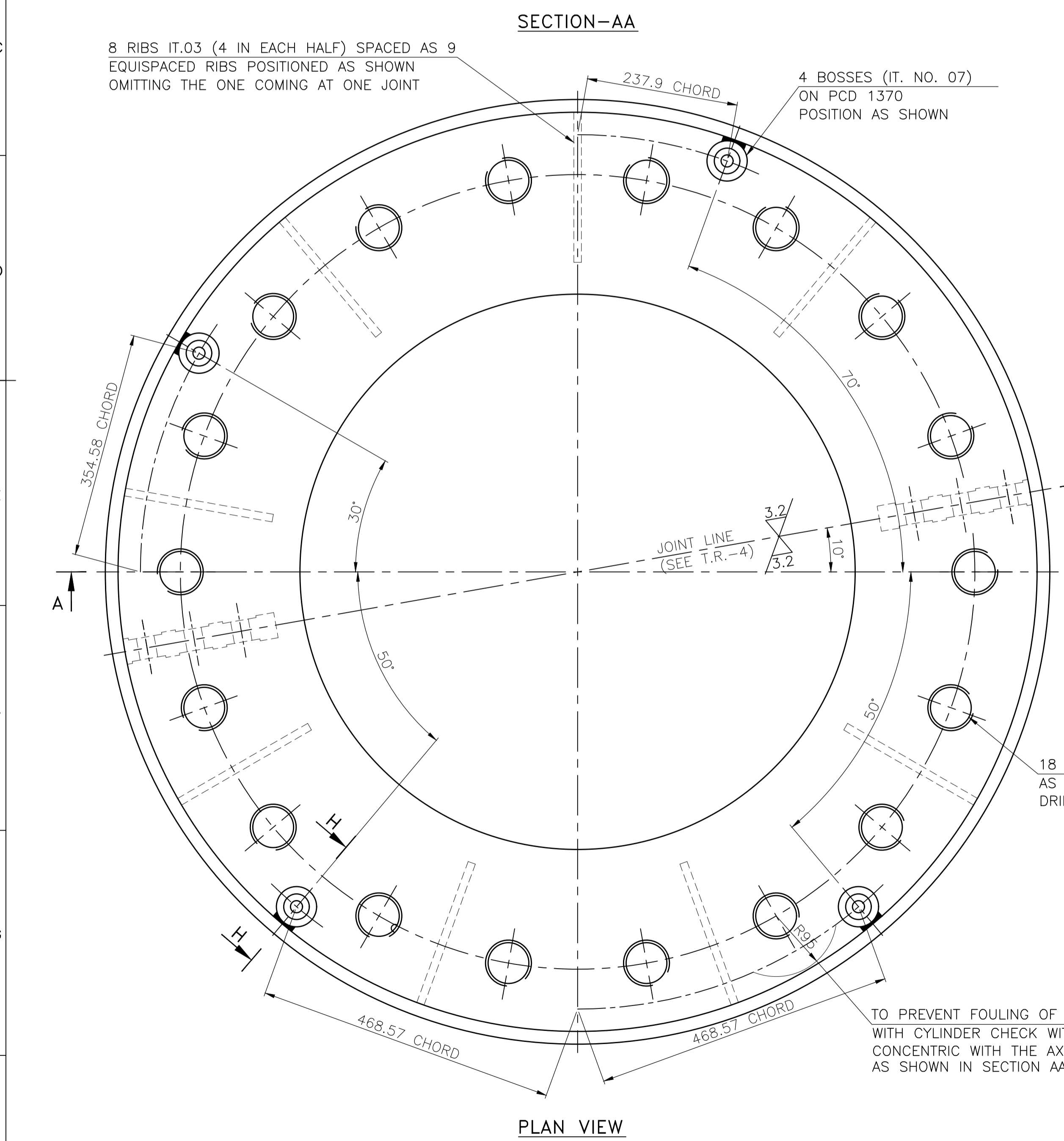
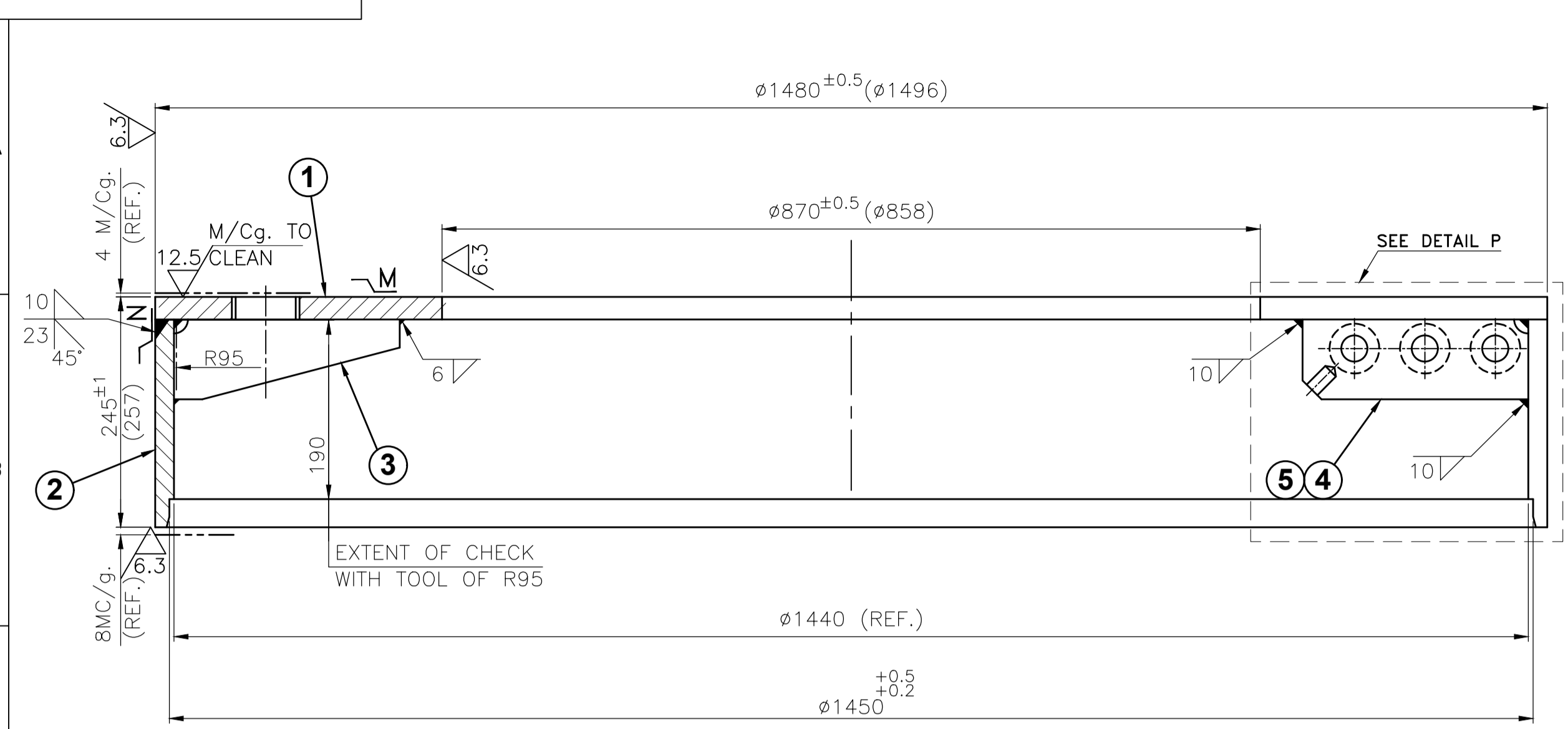
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DR. NO. 1-205-01-202-03

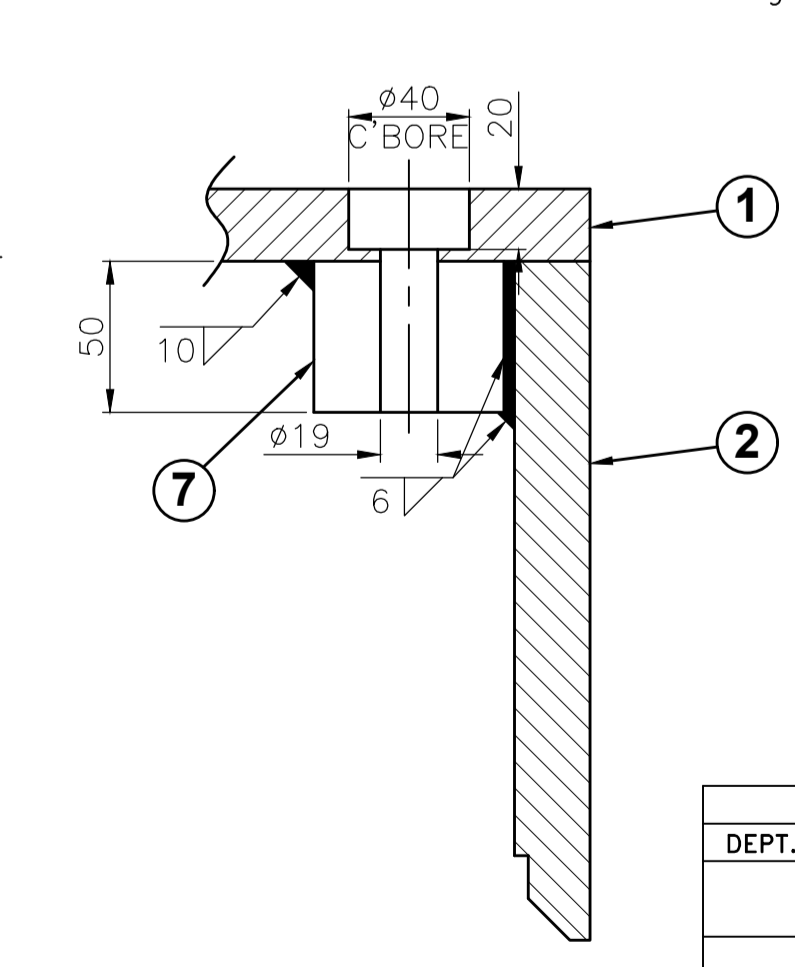
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

INVENTORY NO. SIGN. & DATE 1-205-01-184-04 REF. DRG. NO.



**TECHNICAL REQUIREMENTS:-**

- WELDING TO BE DONE AS PER GRADE II OF CORPORATE STD. AA0622101 EXCEPT FILLET WELDS WHICH ARE TO BE AS PER GRADE III. U.T. FOR PARTIAL PENETRATION WELDS TO BE DONE FOR DEPTH OF WELD MINUS 5MM.
- DIMENSIONS IN ( ) ARE FABRICATION DIMENSIONS.
- STRESS RELIEVING AFTER WELDING BUT BEFORE MACHINING AS PER STD. BP0640299 AND SHOT BLASTING TO BE DONE THEREAFTER.
- JOINT FACE SURFACES TO BE CHECKED BY BLUEING AT WORKS TO ENSURE PROPER BEDDING.
- PAINT AND PROTECT AS PER PRODUCT STD. HT00005 AS FOLLOWS:
  - SURFACE M, N AND HOLES TO CAT.'G'.
  - OTHER MACHINED SURFACES TO CAT. 'B'.
  - UNMACHINED SURFACES TO CAT. 'F'.
- JOINING HARDWARES ARE CALLED IN ARRANGEMENT DRG. NO. 02050120201.
- FABRICATED WEIGHT OF EACH HALF IS 305 kg.



ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT WT.	ZONE
001	RING HALF	1	002	130.500	
002	CYLINDER HALF	1	002	111.000	
003	RIB	8	008	1.200	
004	JOINT FLANGE-I	2	002	4.000	
005	JOINT FLANGE-II	2	002	4.000	
006	PARALLEL DOWEL Ø16 x 25 LONG	2	002	0.040	
007	BOSSES	4	004	1.100	

REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	DEPT.	UNTOL.	DIMS.	GR.	SCALE	WEIGHT(K.G.)	REF. TO ASSY.DRG.	ITEM NO.	NO. OF ITEM
01	07.01.21		01			01			402	32000049014			1:5	385	0-205-01-202-01	003	007

**PALAMURU RANGAREDDY LIS**  
STAGE-III (9x145 MW)

BHARAT HEAVY ELECTRICALS LTD. BHOPAL

DRN: NEERAJ, CKD: OND, APPD: S.K.

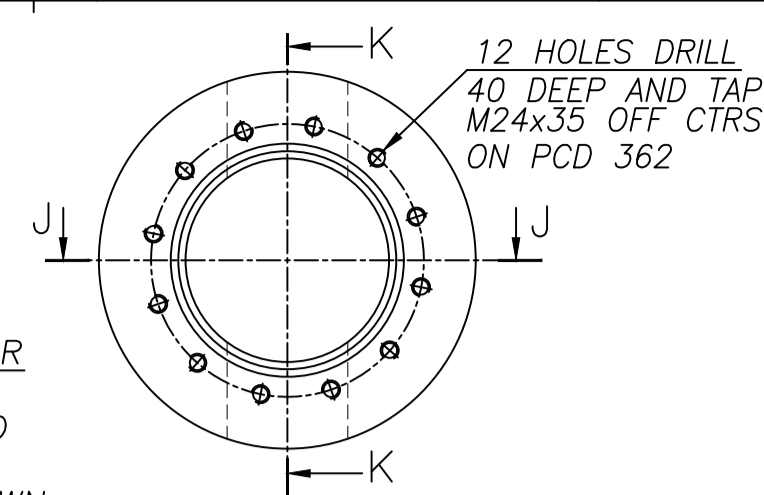
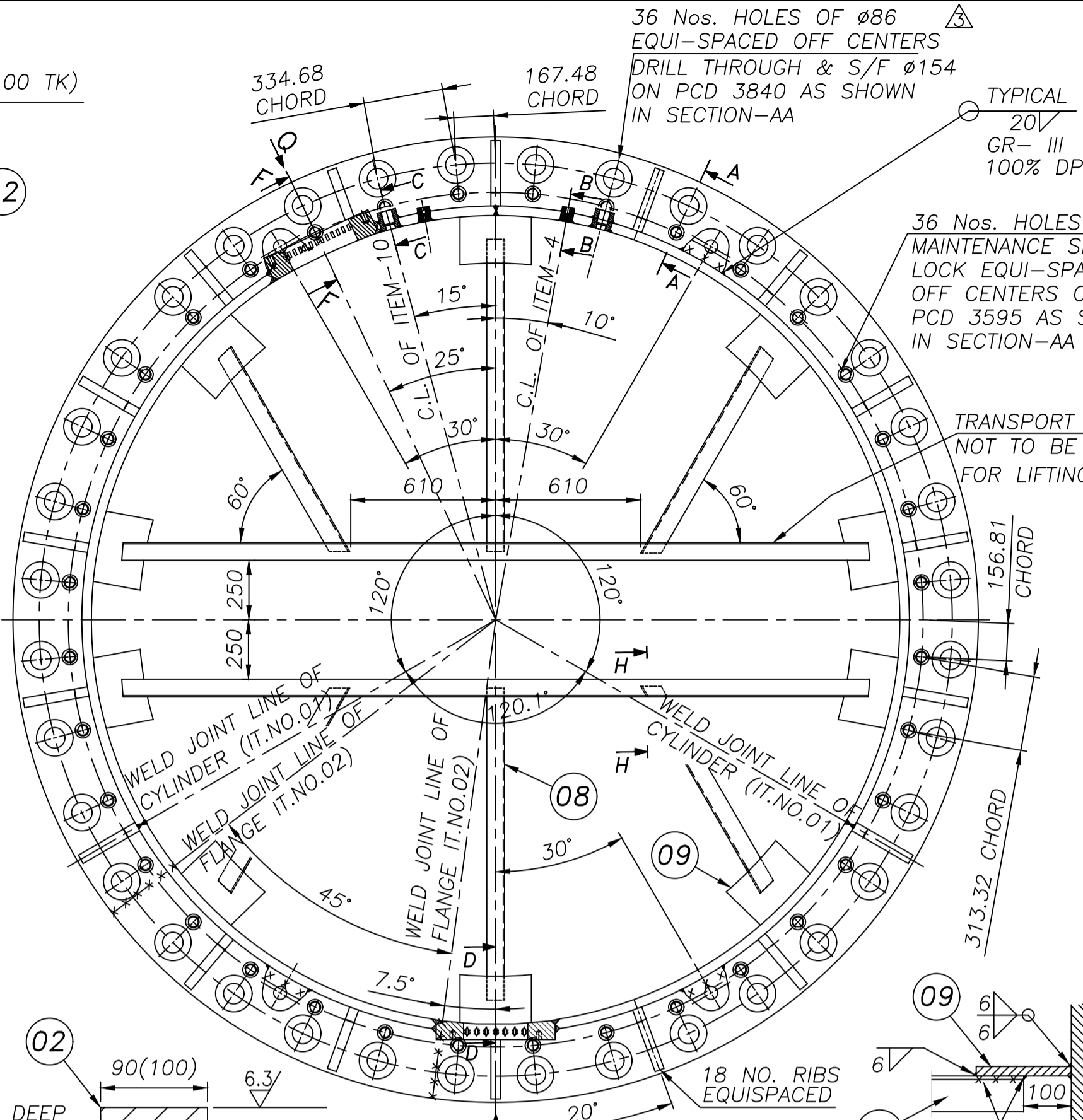
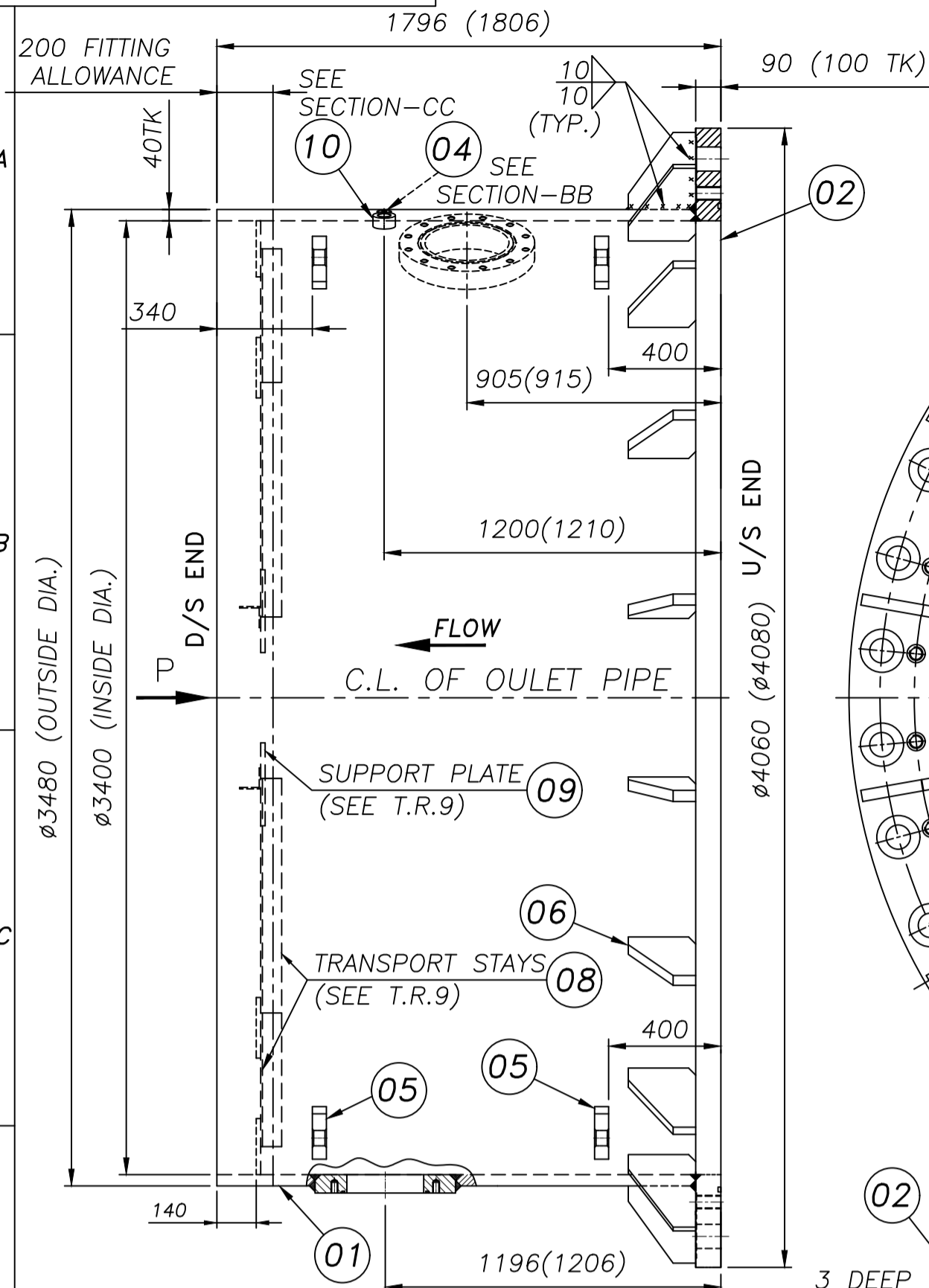
DATE: 05.08.17, 05.08.17, 05.08.17

TITLE: NUT GAURD IN HALVES (MOTOR END)

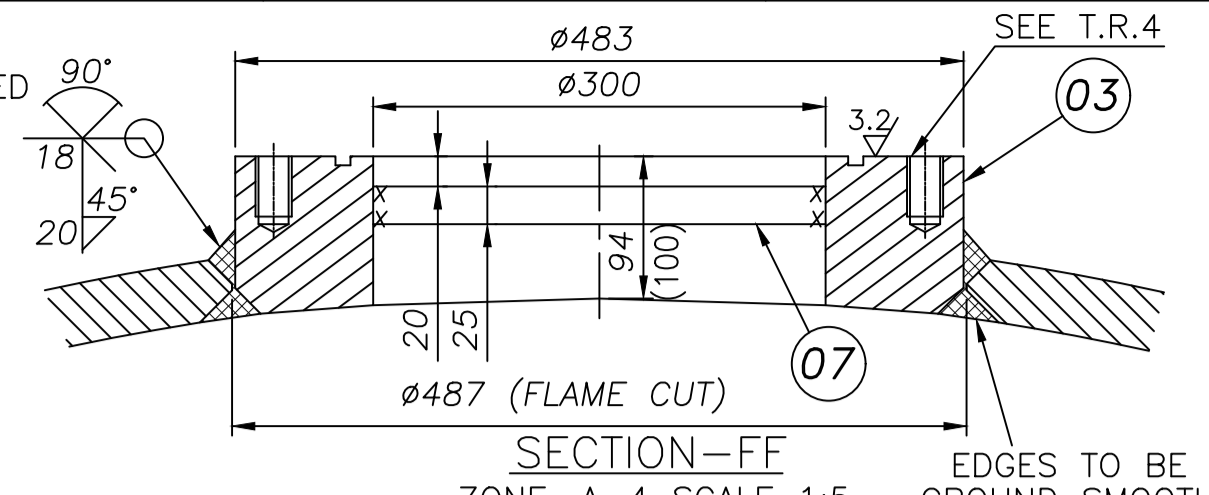
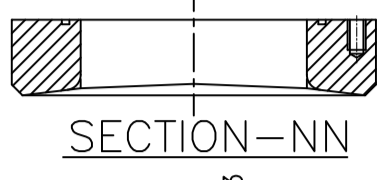
DRAWING NO. 1-205-01-202-03

SHT. NO. 1 NO. OF SHT. 1

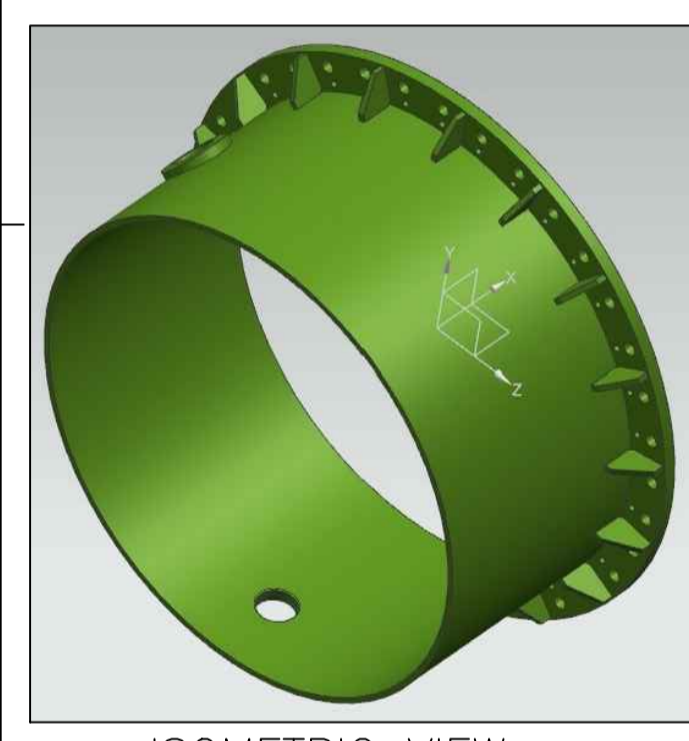
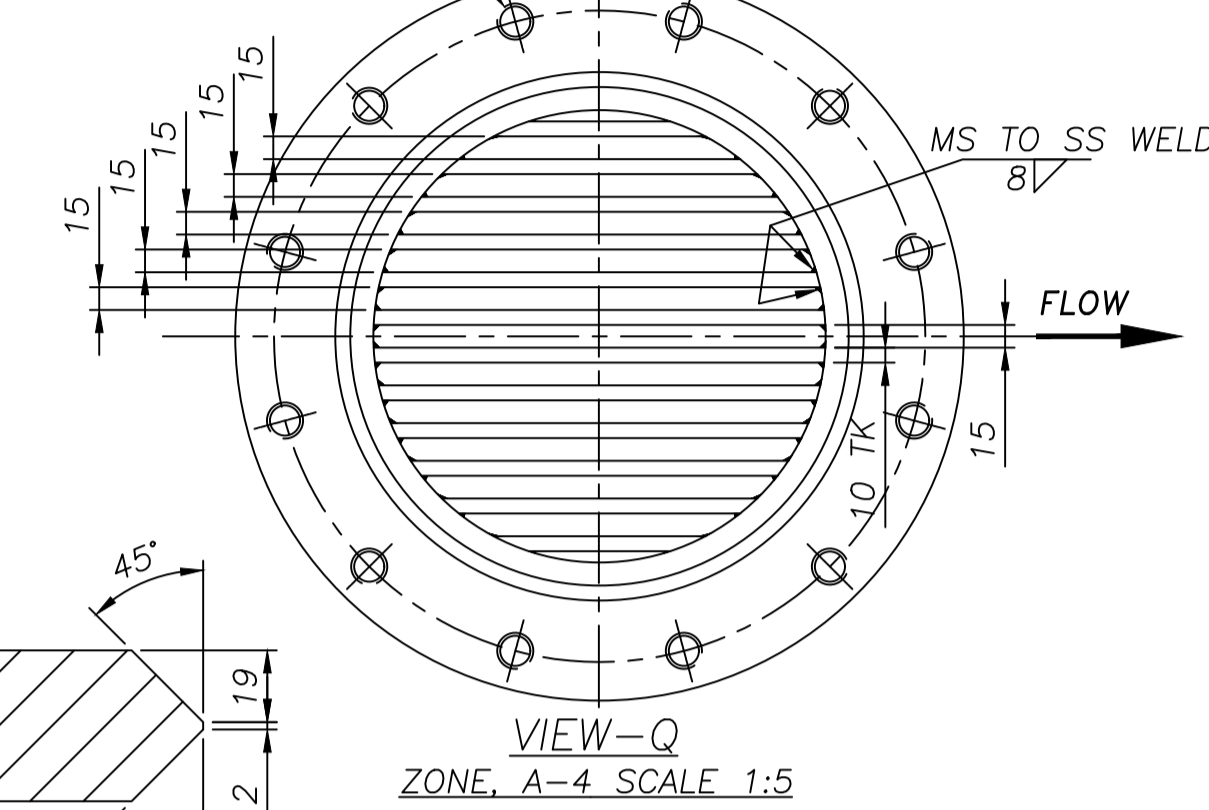
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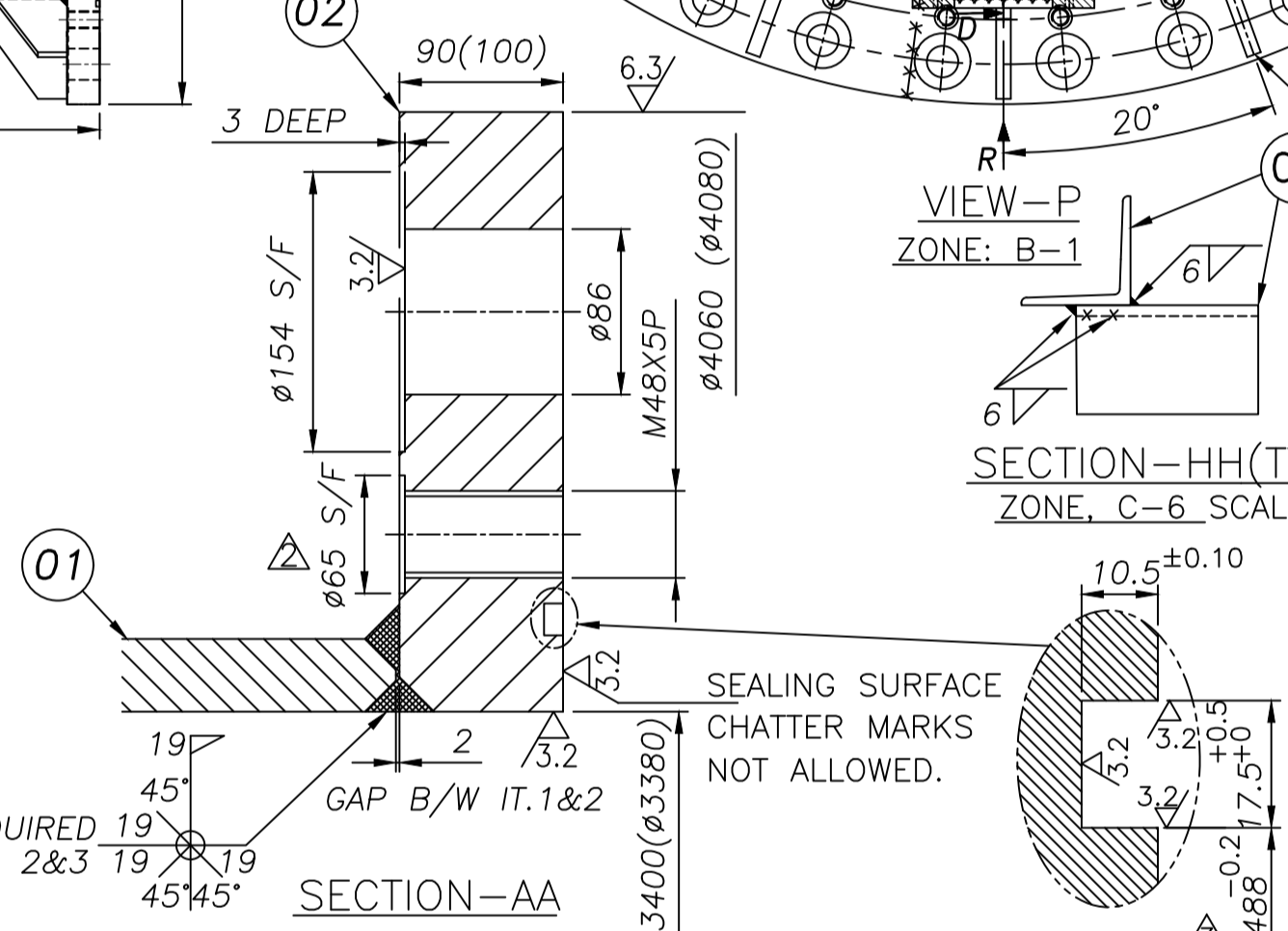
12-HOLES EQUALLY SPACED OFF CENTRES DRILL 45 DEEP AND TAP M24X3P40 DEEP ON PCD 432 AS SHOWN



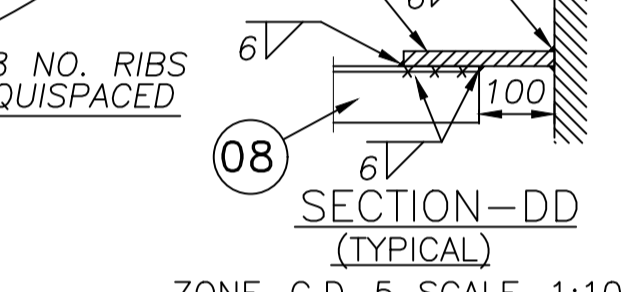
12 HOLES M24X3P ON PCD 432 (HOLES TO BE KEPT OFF CENTRED) EDGES TO BE GROUND SMOOTH



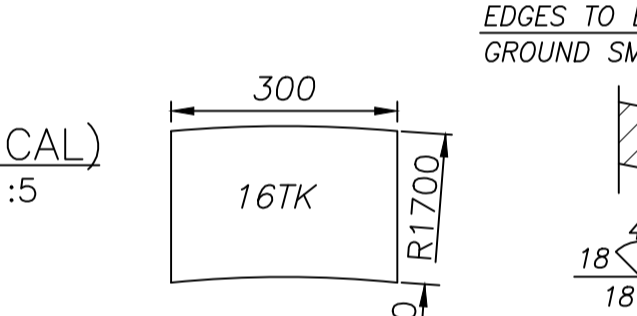
ISOMETRIC VIEW



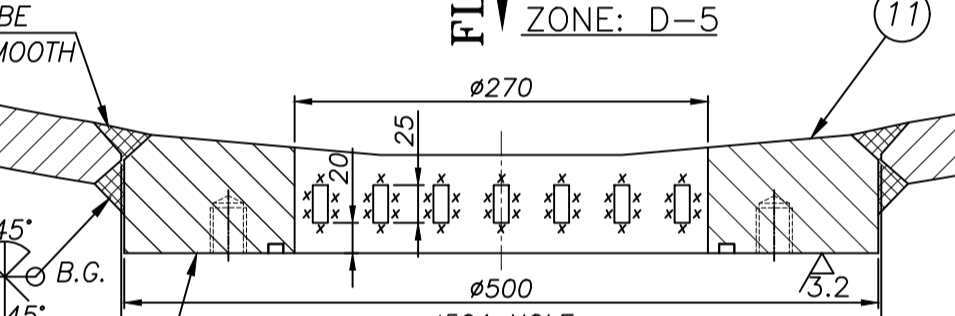
SECTION-AA ZONE-A-5 SCALE-1:4



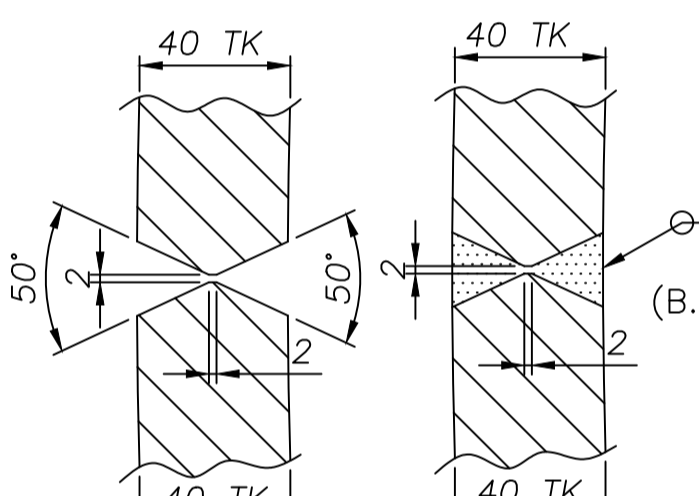
SECTION-DD (TYPICAL) ZONE-C,D-5 SCALE-1:10



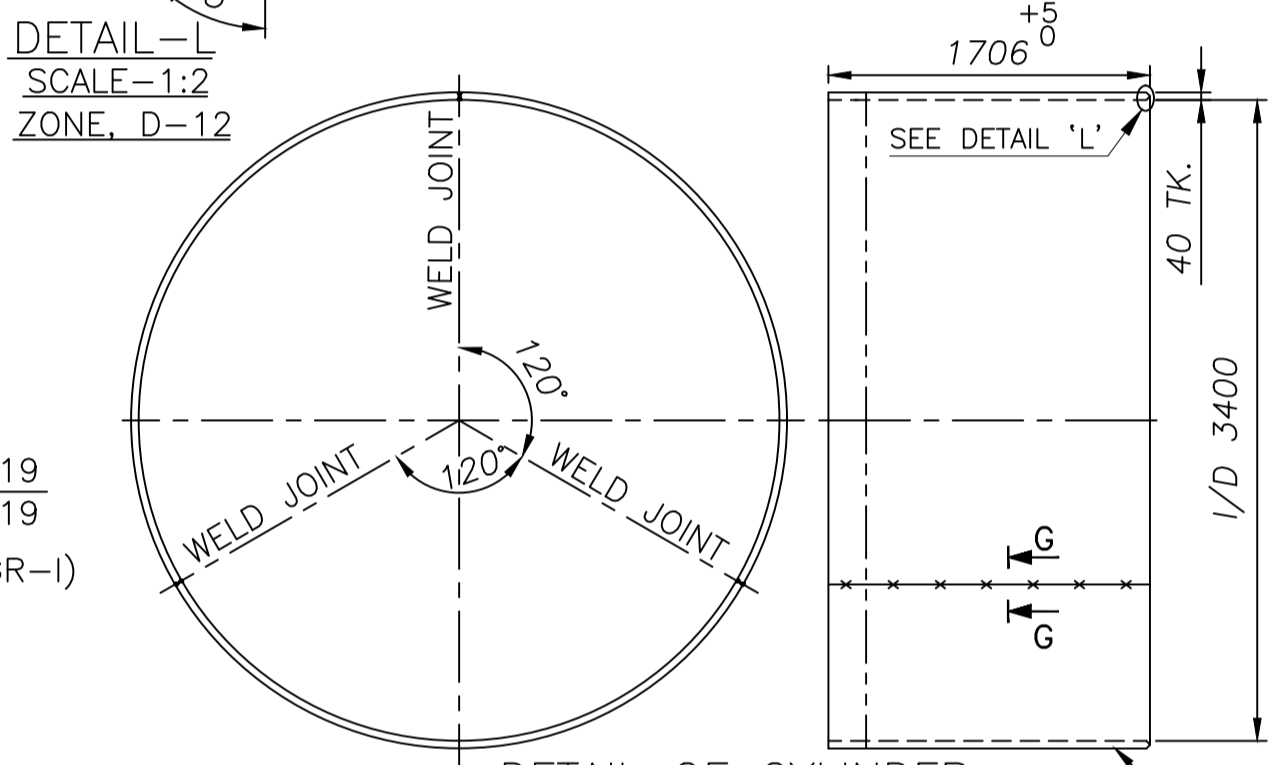
SECTION-HH (TYPICAL) ZONE-C-6 SCALE-1:5



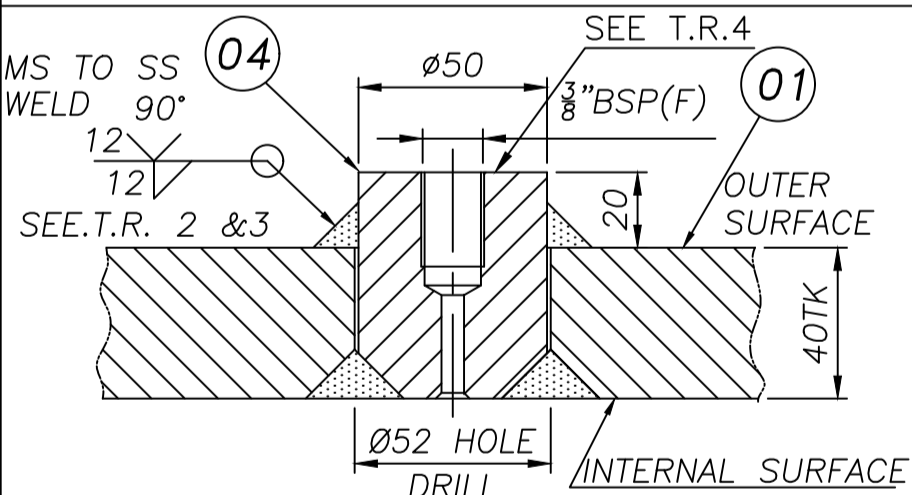
SECTION-MM SCALE 1:5 ZONE: C-7.9



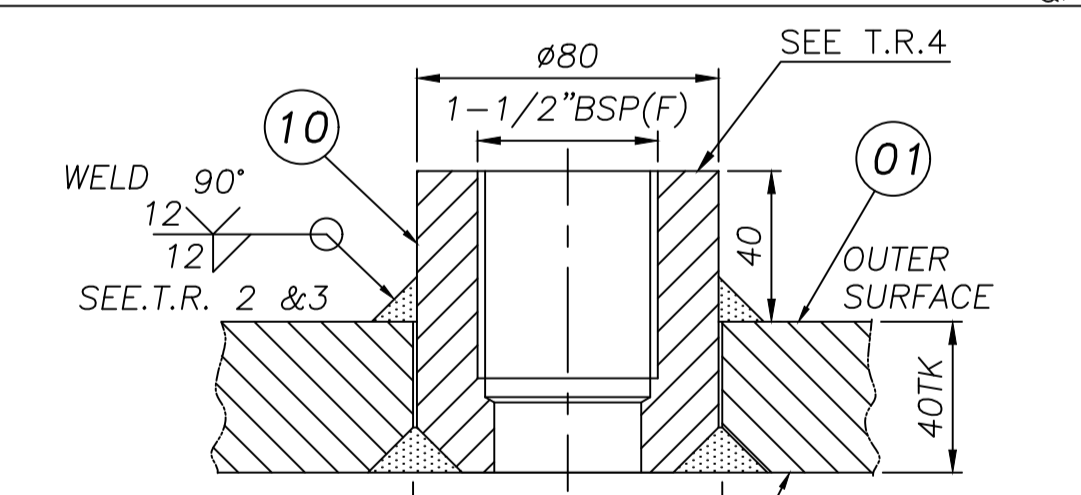
SECTION-GG WELD DETAIL OF ITEM-1 SCALE-1:2



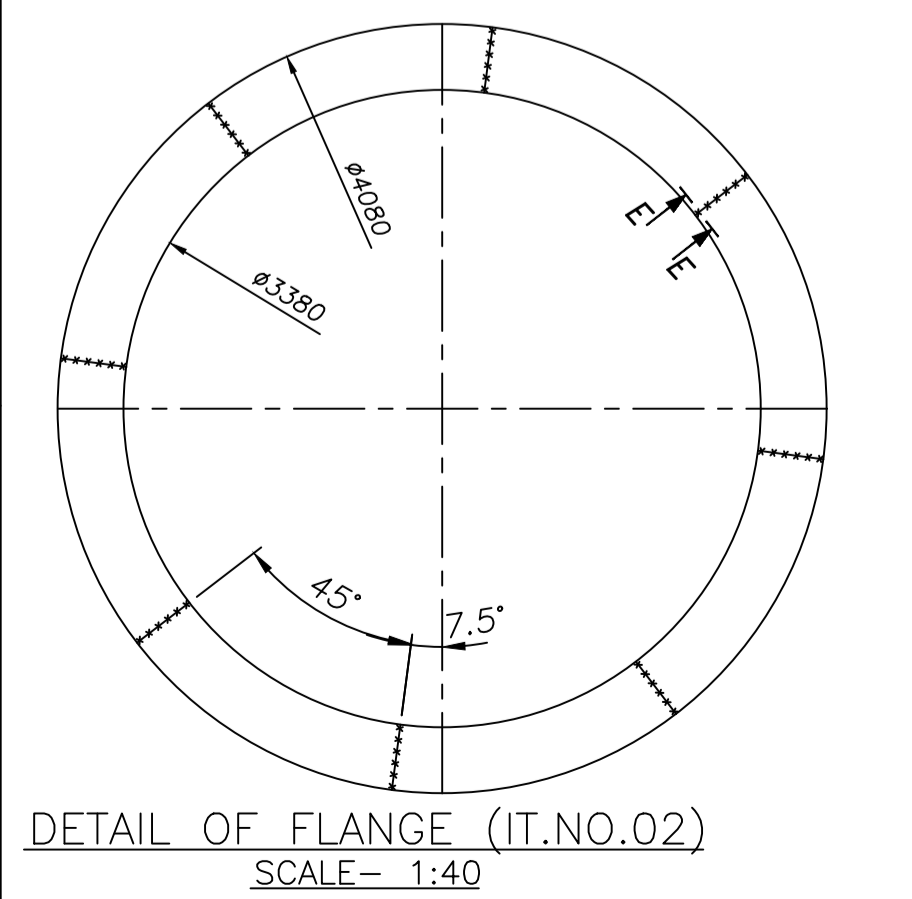
DETAIL OF CYLINDER (IT.NO.01) SCALE- 1:40



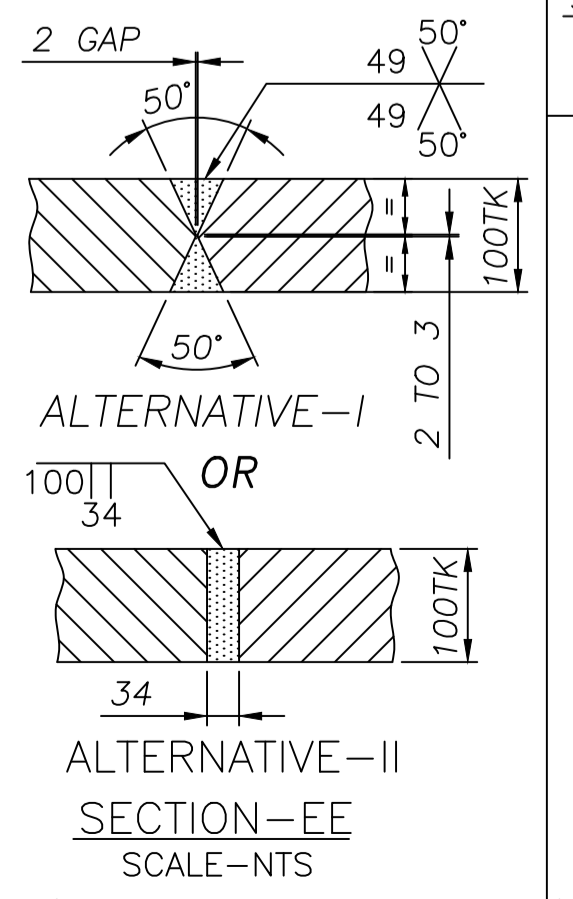
SECTION-BB (TYPICAL) ZONE, A-5 SCALE-1:2



SECTION-CC (TYPICAL) ZONE, A-5 SCALE-1:2

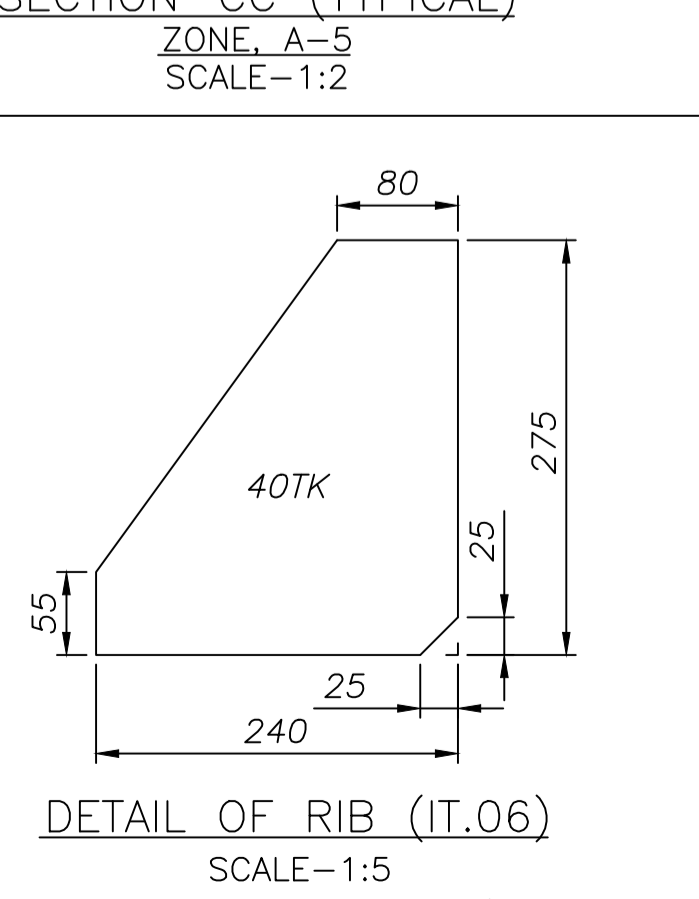


DETAIL OF FLANGE (IT.NO.02) SCALE- 1:40



ALTERNATIVE-I SECTION-EE SCALE-NTS

ALTERNATIVE-II SECTION-EE SCALE-NTS



DETAIL OF RIB (IT.06) SCALE-1:5

**TECHNICAL REQUIREMENTS:-**

- DIMENSIONS GIVEN IN DRAWING DO NOT INCLUDE ANY TECHNOLOGICAL ALLOWANCES FOR FABRICATION.
- MATERIAL FOR ITEM 2 IS ASTM 537 CL-2; THEREFORE NECESSARY PRECAUTIONS FOR PRE-HEATING AND WELDING ELECTRODES ARE TO BE TAKEN.
- ALL WELDING AND NDT REQUIREMENTS SHALL BE AS PER CORPORATE STANDARD AA0622101 AND AS SPECIFIED BELOW.
  - JOINTS OF IT.NO. 1 & 2 ARE TO BE STAGGERED.
  - ALL LONGITUDINAL, RADIAL AND T JOINTS - WITH 100% UT & MPT. CIRCUMFERENTIAL WELD TO 10% UT AND 100% MPI.
  - INITIAL RUN AND FINAL RUN OF WELDS TO BE 100% D.P. ITEM NO.04 & 10 TO BE 100% DP TESTED.
  - FOR LIFTING LUGS, ROOT RUN TO BE TESTED BY D.P AND FINAL RUN BY 100% MCD.
  - ALL OTHER FILLET WELDS 100% DP/ 100% MP TESTED. NOTE- ALL WELDS TO BE GROUND SMOOTH PRIOR TO NDT AS ABOVE.
- STRESS RELIEVING AS PER BP 0640299 AND SUBSEQUENT SHOT BLASTING TO BE CARRIED OUT.
  - DURING STRESS RELIEVING AND SHOT BLASTING MACHINED FACES & TAPPED HOLES TO BE SUITABLY PROTECTED.
- REMOVE ALL BURRS AND SHARP EDGES.
- STEPS OR PROTRUSIONS IN WATER PASSAGE (INTERNAL SURFACES) ARE NOT ALLOWED. WELDS ON INTERNAL SURFACES ARE TO BE GROUND SMOOTH.
- OUTLET PIPE TO BE HYDRAULIC PRESSURE TESTED AS PER DRAWING NO. 0212520101.
  - DESIGN PRESSURE = 16.5 KG/SQ. CM AND TEST PRESSURE = 27.8 KG/SQ. CM
- AFTER HYDRAULIC PRESSURE TESTING, PAINTING & PROTECTION TO BE DONE AS PER HT00005, LEAVING 160 MM WIDE BAND PROVIDED FOR SITE FITTING ALLOWANCE.
  - INTERNAL SURFACES (WATER PASSAGE)-WITH CAT-C (COAL TAR EPOXY PAINT)
  - EXTERNAL SURFACES WITH CAT-E
  - MACHINED SURFACES : TO CAT-G.
- BEFORE DESPATCH TAPPED HOLES OF (ITEM NO. 03 & 04) TO BE CHECKED BY STOCK SCREWS. IF REQUIRED RE-TAPPING TO BE CARRIED OUT.
  - ALL TAPPED HOLES AND MACHINED FACES TO BE SUITABLY PROTECTED BEFORE DESPATCH.
- TRANSPORT STAYS (IT. NO. 08) AND SUPPORT PLATE (IT. NO. 09) ARE TO BE WELDED AT D/S END OF OUTLET PIPE AND NOT TO BE USED FOR LIFTING PURPOSE.
- GRATING BARS (IT. NO. 07) TO BE WELDED ALONG FLOW AXIS AS SHOWN IN VIEW 'Q'.
- DIMENSIONS IN BRACKET ( ) SHOWN ARE FABRICATED DIMENSIONS.
- FABRICATION WEIGHT OF OUTLET PIPE (INCLUDING TRANSPORT STAYS) = 9570 KG.
- TRANSPORT DIMENSION = Ø4060 X 1756 HEIGHT.

ITEM NO.	QTY	DESCRIPTION	DRAWING NO.	MATL. CODE	UNIT	WT.	ZONE
01	1	CYLINDER	SEE DETAIL	AA10119	KG	5789.2	01
02	1	FLANGE IN 8-PARTS	SEE DETAIL	AA10725	KG	25.32	01
03	1	BOSS FOR BYPASS VALVE	SEE DETAIL	IS2062/A516GR70	KG	78.0	01
04	1	BOSS 3/8" BSP	4 21604 19701	AA10725	KG	0.75	02
05	3	LIFTING LUG 7-8.5T	3 23029 49140	AA10108	KG	07.8	08
06	1	RIB	SEE DETAIL	AA1011808196	KG	15.20	18
07	1	GRATING BAR (S.S.)	107Kx25Wx6m USE OFF CUTS	UNS A41500 ASTM A240	NO	14.2	01
08	1	TRANSPORT STAYS	75X75X6X15m RS ANGLE	AA10108	NO	102.0	01
09	1	SUPPORT PLATE	SEE DETAIL	AA1011808110	KG	7.54	10
10	1	BOSS 1-1/2" BSP	4 21604 19702	AA10108	KG	2.00	02
11	1	BOSS FOR DRAIN VALVE 250NB	SEE DETAIL	AA1011808269	KG	82.0	01

**ADDITIONAL INFORMATION**  
36201A20212 TO 36205A20212

**STATUS OF DRAWING** U

**DISTRIBUTION OF PRINTS**  
HTE-2, THX-1, WTM(P)-1  
WTM(S)-4 FGM-7,

**TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT**  
RANGAREDDY-II (9X145 MW)

DRN	NAME	SIGN	DATE	NO. OF VAR.
CKD	S.K.G.	-sd-	20.11.20	
APPD	H.K./AM.	-sd-	19.01.21	

**TITLE**  
OUTLET PIPE TO DISCHARGE VALVE (FAB. & MACHINING)

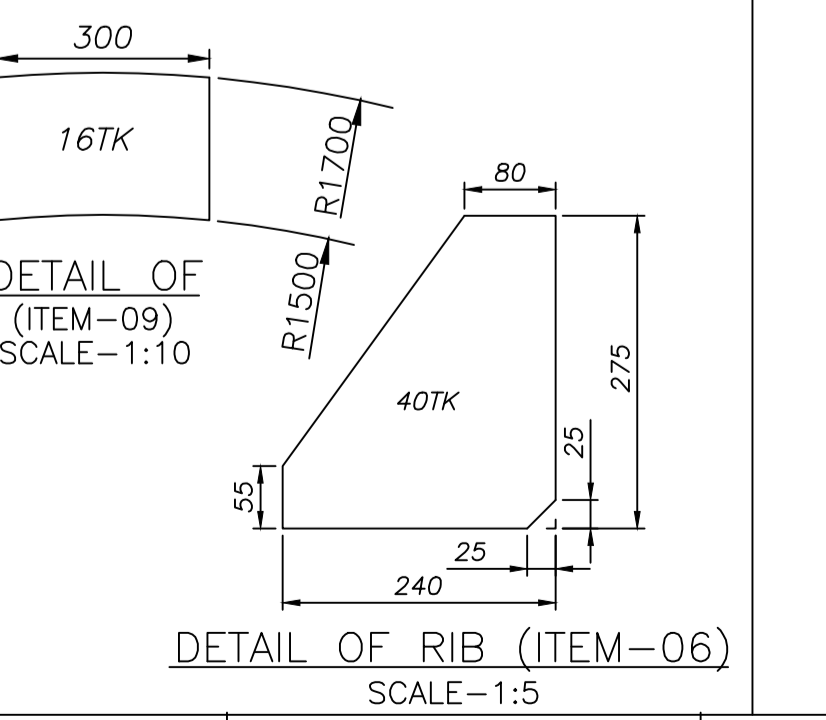
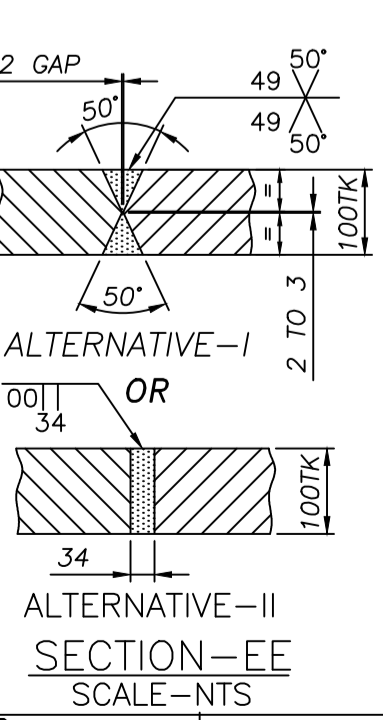
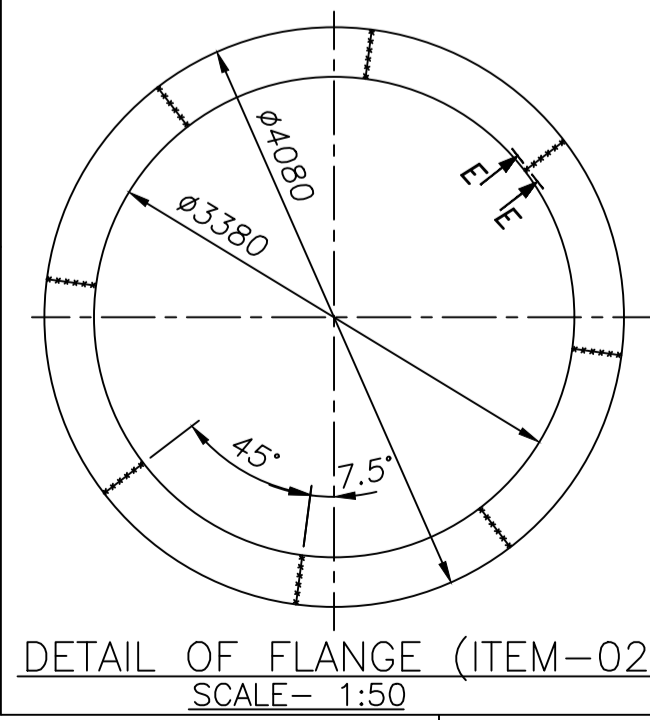
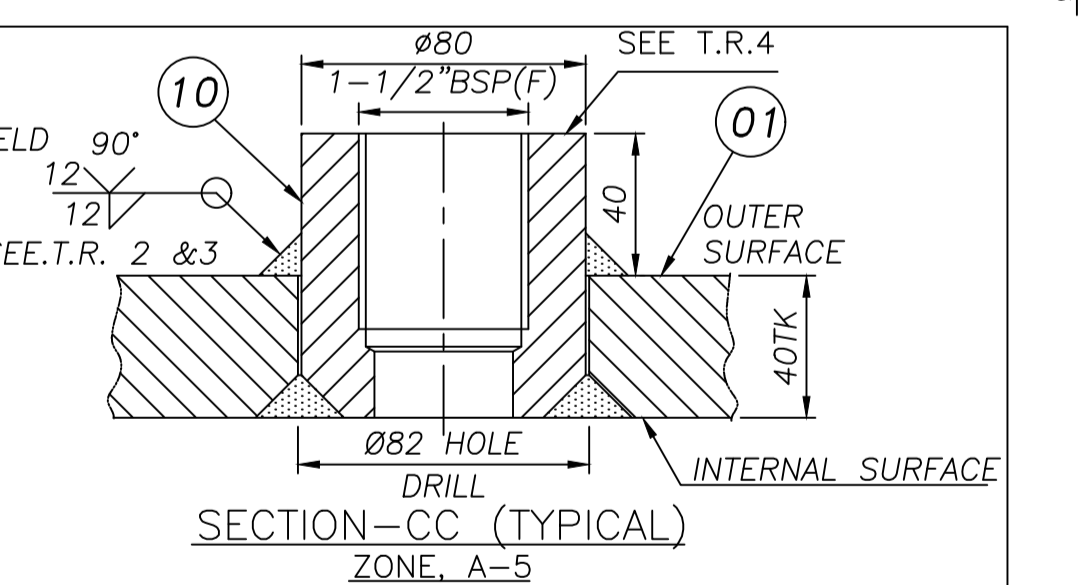
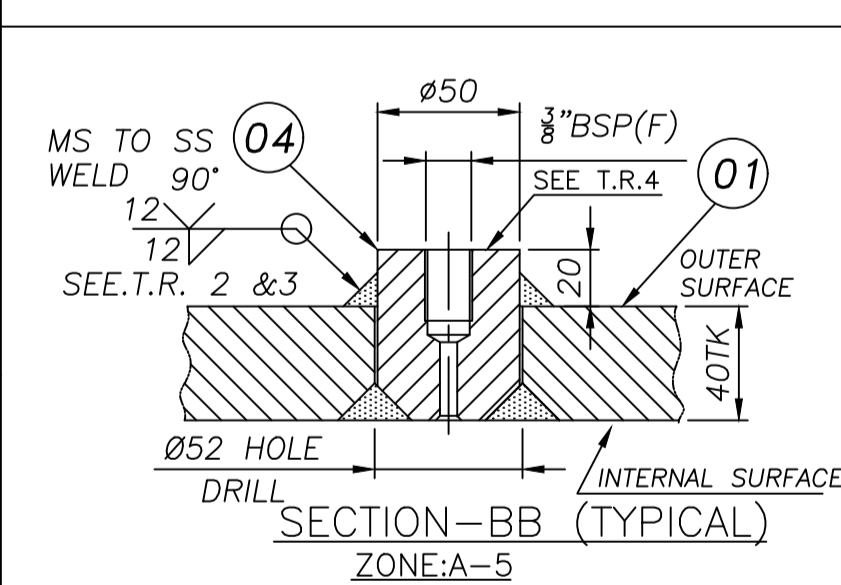
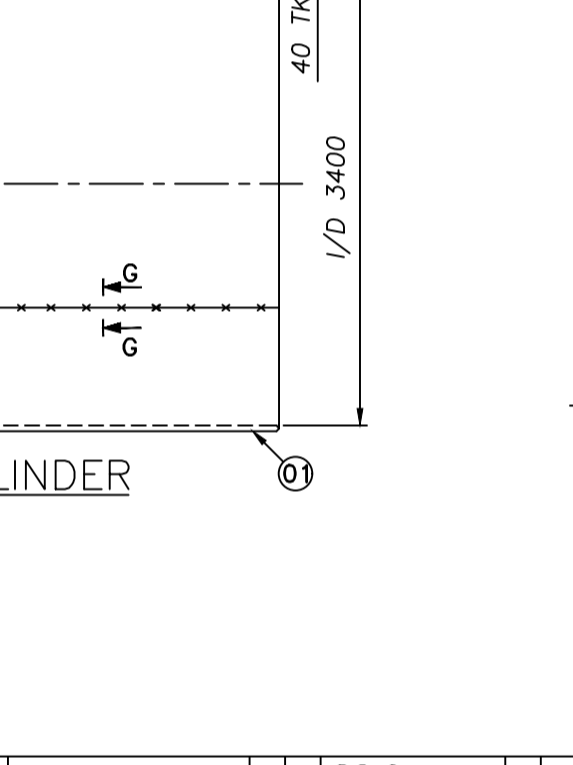
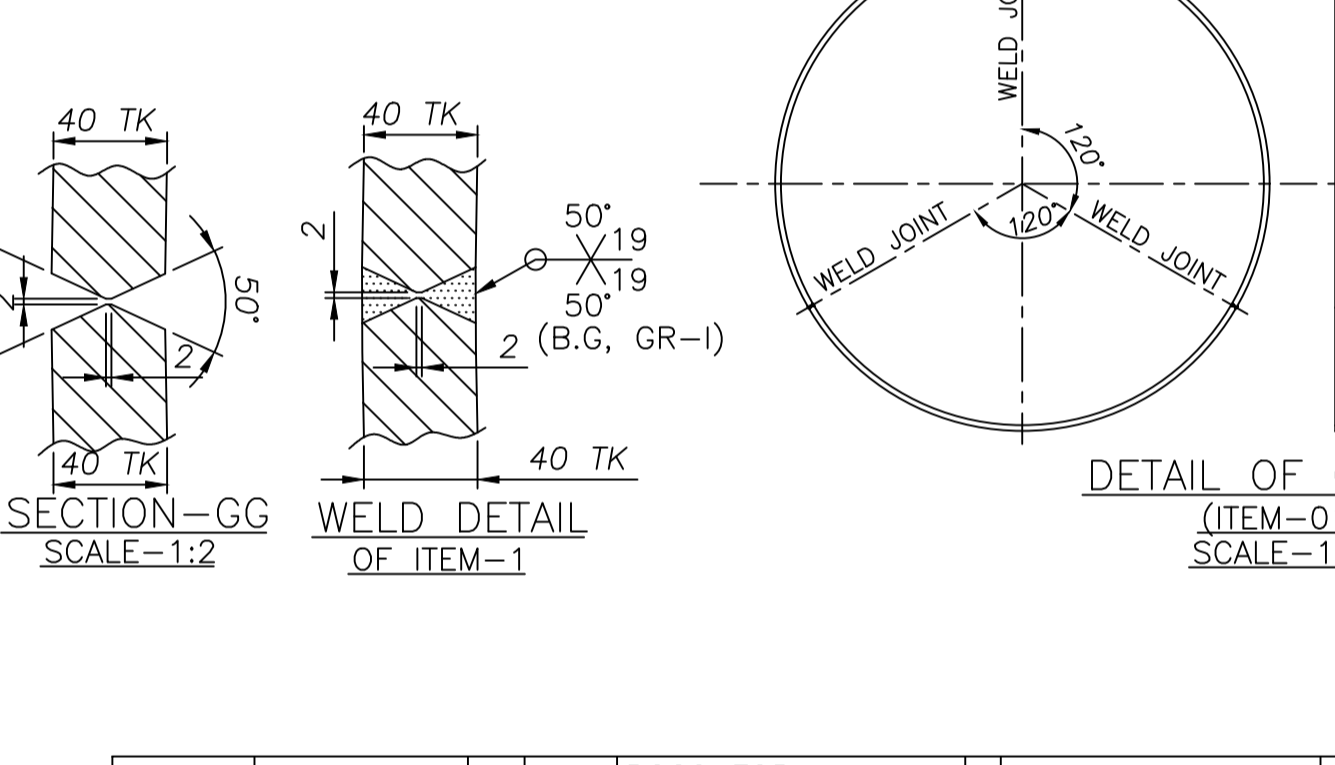
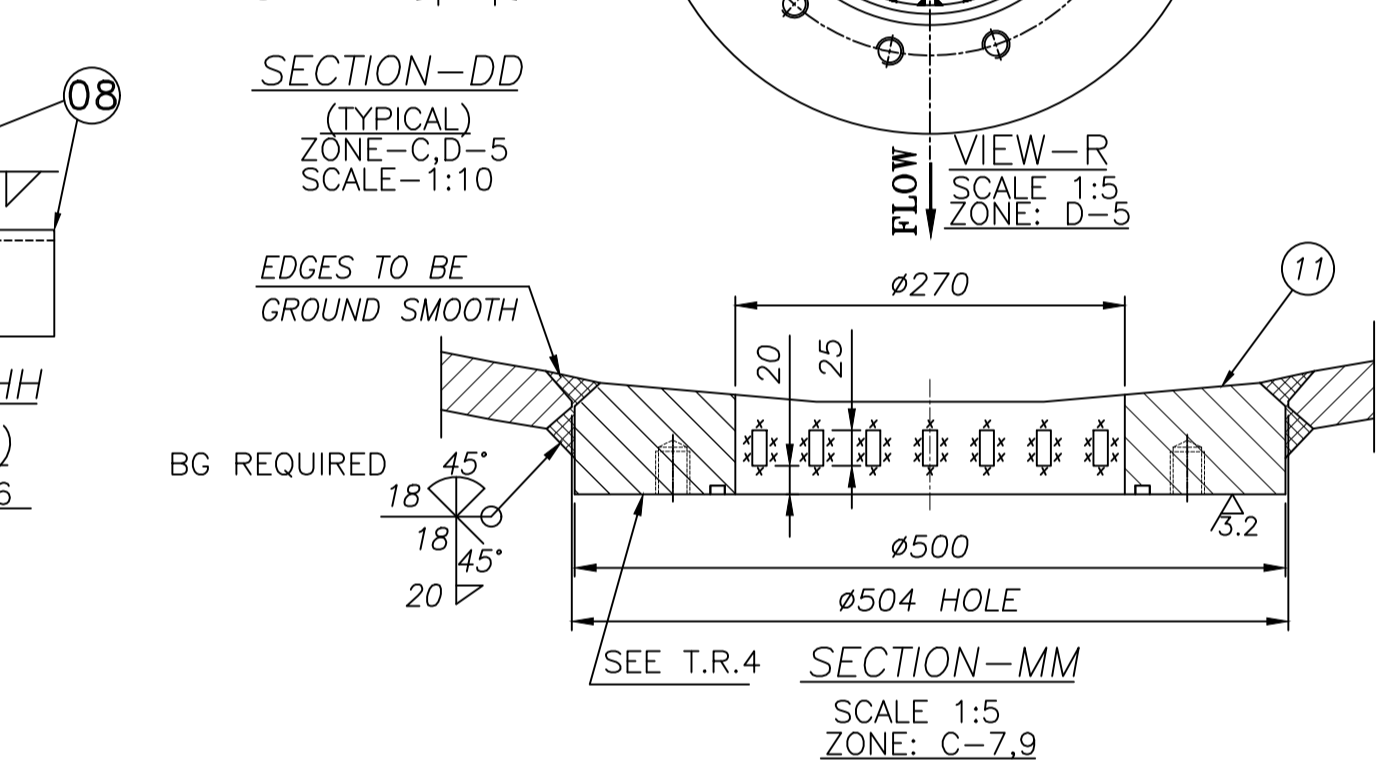
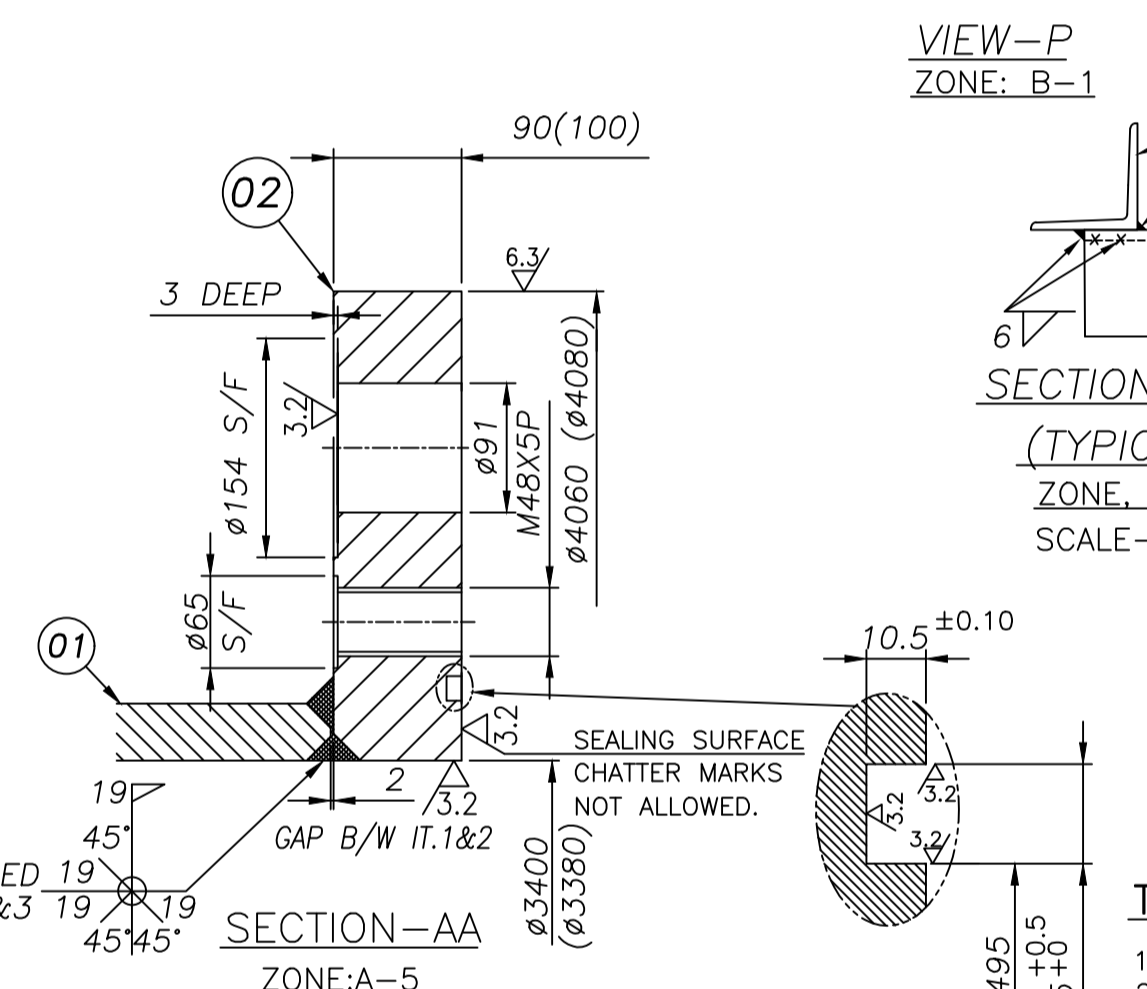
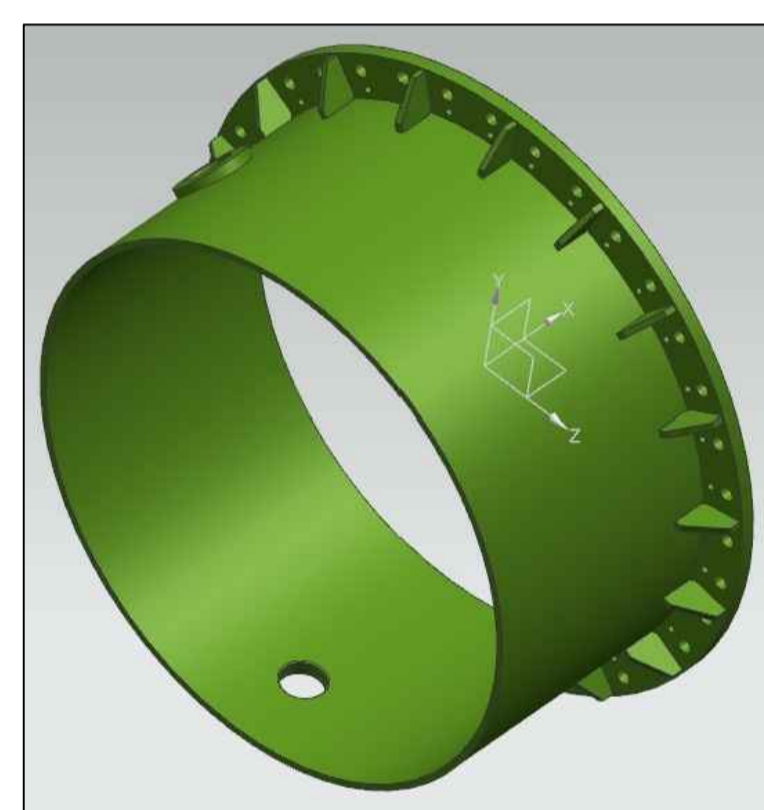
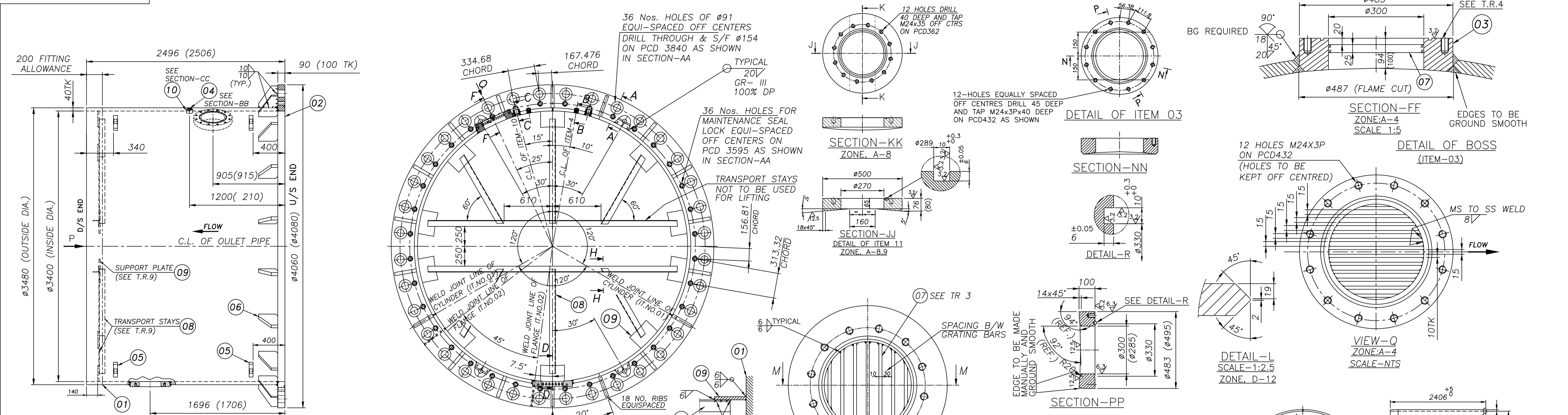
**DRAWING NO.**  
1 21205 20101

**REV.**  
03

REV.	DATE	ALTERED SKG	CHKD	SATISH	APPD.	DATE	ALTERED SKG	CHKD	SATISH	APPD.
03	11.8.21	086 WAS #91				02	26.3.21			
02	26.3.21	DRG. REVISED AS PER INTERNAL DESIGN REVIEW.				01	30.1.21			
01	30.1.21	DRG. REVISED AS PER INTERNAL DESIGN REVIEW.								

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DRG. NO. 12120521501



- TECHNICAL REQUIREMENTS:-**
- DIMENSIONS GIVEN IN DRAWING DO NOT INCLUDE ANY TECHNOLOGICAL ALLOWANCES FOR FABRICATION.
  - MATERIAL FOR ITEM 2 IS ASTM 537 CL-2; THEREFORE NECESSARY PRECAUTIONS FOR PRE-HEATING AND WELDING ELECTRODES ARE TO BE TAKEN.
  - ALL WELDING AND NDT REQUIREMENTS SHALL BE AS PER CORPORATE STANDARD AA0622101 AND AS SPECIFIED BELOW.
    - JOINTS OF IT.NO. 1 & 2 ARE TO BE STAGGERED.
    - ALL LONGITUDINAL, RADIAL AND T JOINTS - WITH 100% UT & MPT. CIRCUMFERENTIAL WELD TO 10% UT AND 100% MPI.
    - INITIAL RUN AND FINAL RUN OF WELDS TO BE 100% D.P. ITEM NO.04 & 10 TO BE 100% DP TESTED.
    - FOR LIFTING LUGS, ROOT RUN TO BE TESTED BY D.P AND FINAL RUN BY 100% MCD.
    - ALL OTHER FILLET WELDS 100% DP/ 100% MP TESTED. NOTE- ALL WELDS TO BE GROUND SMOOTH PRIOR TO NDT AS ABOVE.
  - STRESS RELIEVING AS PER BP 0640299 AND SUBSEQUENT SHOT BLASTING TO BE CARRIED OUT.
    - DURING STRESS RELIEVING AND SHOT BLASTING MACHINED FACES & TAPPED HOLES TO BE SUITABLY PROTECTED.
  - REMOVE ALL BURRS AND SHARP EDGES.
  - STEPS OR PROTRUSIONS IN WATER PASSAGE (INTERNAL SURFACES) ARE NOT ALLOWED. WELDS ON INTERNAL SURFACES ARE TO BE GROUND SMOOTH.
  - OUTLET PIPE TO BE HYDRAULIC PRESSURE TESTED AS PER DRAWING NO. 0212520101.
    - DESIGN PRESSURE = 11.8 Kg/sq. cm AND TEST PRESSURE = 17.7 Kg/sq. cm.
  - AFTER HYDRAULIC PRESSURE TESTING, PAINTING & PROTECTION TO BE DONE AS PER HT00005, LEAVING 160 MM WIDE BAND PROVIDED FOR SITE FITTING ALLOWANCE.
    - INTERNAL SURFACES (WATER PASSAGE)-WITH CAT-C (COAL TAR EPOXY PAINT)
    - EXTERNAL SURFACES WITH CAT-E
    - MACHINED SURFACES : TO CAT-G.
  - BEFORE DESPATCH TAPPED HOLES OF (ITEM NO. 03 & 04) TO BE CHECKED BY STOCK SCREWS. IF REQUIRED RE-TAPPING TO BE CARRIED OUT.
    - TAPPED HOLES AND MACHINED FACES TO BE SUITABLY PROTECTED BEFORE DESPATCH.
  - TRANSPORT STAYS (IT. NO. 08) AND SUPPORT PLATE (IT. NO. 09) ARE TO BE WELDED AT D/S END OF OUTLET PIPE AND NOT TO BE USED FOR LIFTING PURPOSE.
  - GRATING BARS (IT. NO. 07) TO BE WELDED ALONG FLOW AXIS AS SHOWN IN VIEW 'Q'.
  - DIMENSIONS IN BRACKET ( ) SHOWN ARE FABRICATED DIMENSIONS.
  - FABRICATION WEIGHT OF OUTLET PIPE (INCLUDING TRANSPORT STAYS) = 11940 KG.
  - TRANSPORT DIMENSION = 4060 X 2500 HEIGHT.

ITEM NO.	DESCRIPTION	QTY	UNIT	WEIGHT (KG)	ZONE
01	CYLINDER	1	NO	8164.4	01
02	FLANGE IN 8-PARTS	1	NO	2532	01
03	BOSS FOR BYPASS VALVE	1	NO	78.0	01
04	BOSS 3/8" BSP	4	NO	0.75	02
05	LIFTING LUG 7-8.5T	3	NO	07.8	08
06	RIB	16	NO	15.20	18
07	GRATING BAR (S.S.)	107Kx25Wx6m	NO	14.2	01
08	TRANSPORT STAYS	75X75X6X15m RS ANGLE	NO	102.0	01
09	SUPPORT PLATE	SEE DETAIL	NO	7.54	10
10	BOSS 1-1/2" BSP	4 21604 19702	NO	2.00	02
11	BOSS FOR DRAIN VALVE 250NB	SEE DETAIL	NO	82.0	01

REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	DEPT. CODE	UNTO. H.T.E.	DIMS. GR.	SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
									402	AS PER STD. DRG.	3200049014	1:25	11390	0 21205 21501	01	11

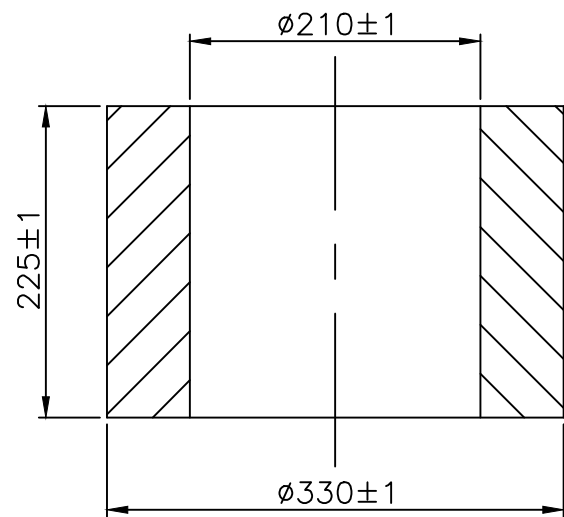
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FIRST ANGLE PROJECTION

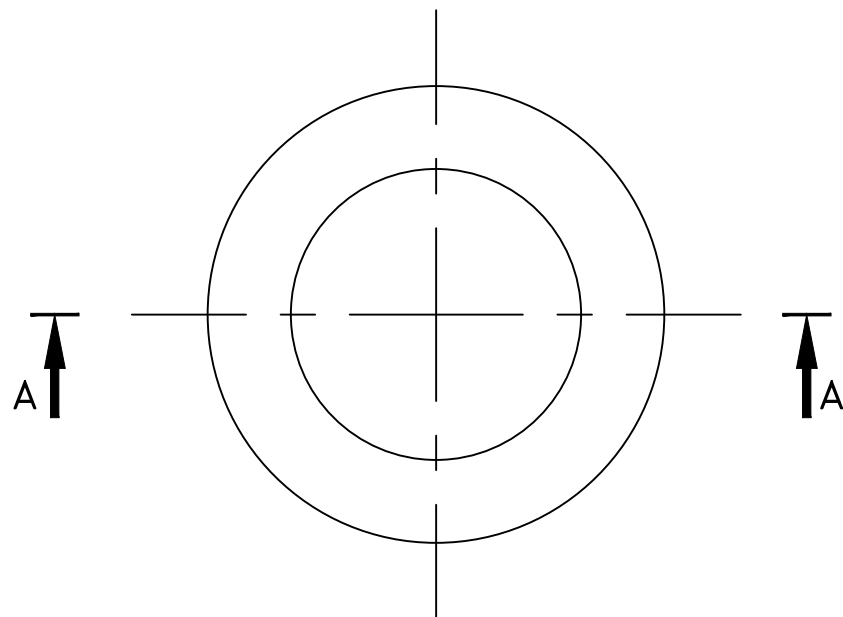
(ALL DIMENSIONS ARE IN mm)

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.

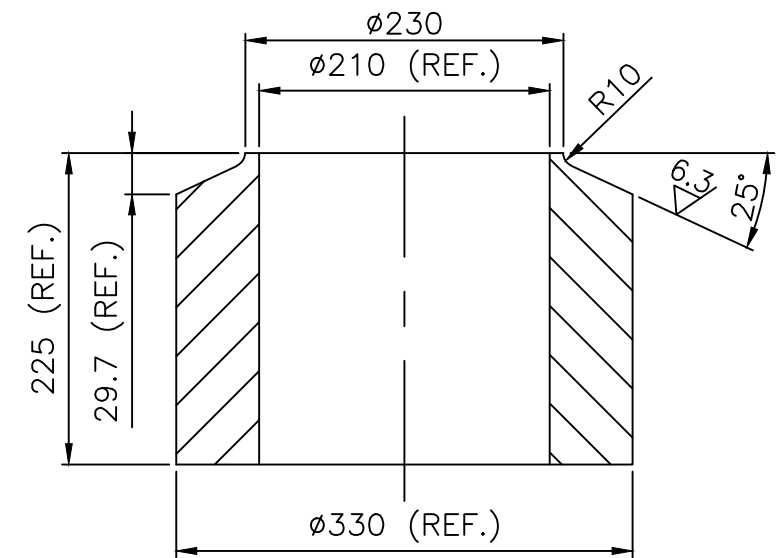
DRG. NO. 3-203-01-20215



SECTION-AA



ROUGH MACHINED CASTING



PRE MACHINING DETAILS

**TECHNICAL REQUIREMENTS**

1. DRG. SHOWS THE CASTING IN ROUGH MACHINED CONDITION.
2. SURFACE FINISH OF THE ROUGH MACHINED CASTING TO BE 12.5 MICRONS.
3. FOLLOWING NDT TO BE DONE ON ROUGH M/CED CASTING  
100% UT AS PER LEVEL-III OF AA0850104  
100% MPI AS PER LEVEL-III OF AA0850134
4. PATTERN NO.1239907 (NEW).
5. CASTING WEIGHT=90.0 KG.
6. CASTING TO BE PRE MACHINED AS SHOWN.(IT. NO. 05 OF DRG. NO. 02030120204)

		001		BOSS-I (CASTING & PRE M/Cg.)				AA19521		90.0																
59	64	65	75	78	79	25	27	29	58	59	60	77	29	31	34	MATL. CODE	45	55	56-57	58	UNIT WT.	65	72			
VAR.OO		REMARKS		VAR NO.		ITEM NO.		DESCRIPTION		STD.		DRAWING NO.		IT.NO.		46		54		68		71		72		
														32		33		46		MATL. SPCN.		54		UNIT		
														VAR.										QTY.	71	72

28 → CARD TYPE-3

28 → CARD TYPE-1

28 → CARD TYPE-2

BEFORE START OF MANUFACTURING VENDOR/FYM(BHEL) TO GET THE LATEST REVISION NO. OF DRAWING CONFIRMED FROM HYDRO TURBINE ENGINEERING, BHEL, BHOPAL.  
IN CASE OF SLIGHTEST DOUBT CONSULT HYDRO TURBINE ENGINEERING, BHEL, BHOPAL

ADDITIONAL INFORMATION

STATUS OF DRAWING U

DISTRIBUTION OF PRINTS  
HTE-2, FYM-4, THX-1  
WTM(PLANNING)-1, WTM(STORE)-4

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT **PALAMURU RANGAREDDY LIS STAGE-III (9x145 MW)**



BHARAT HEAVY ELECTRICALS LTD.  
BHOPAL

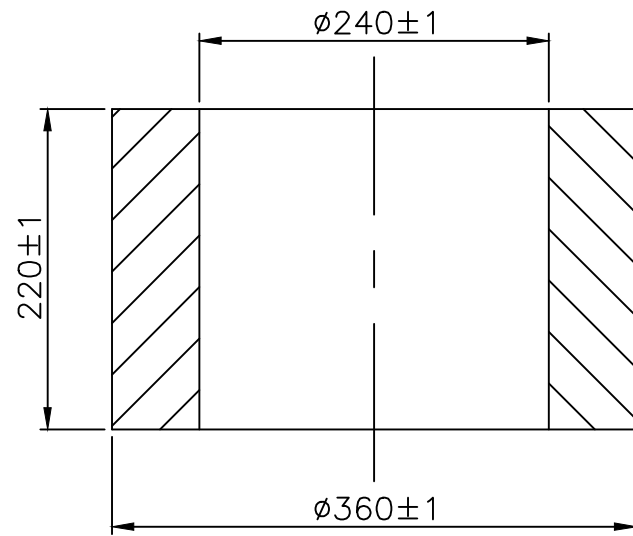
DRN	NAME	SIGN	DATE	NO. OF VAR.
CKD	NIZAM	<i>M. Nizam</i>	04.04.17	
APPD	ND	<i>[Signature]</i>	04.04.17	
	SK	<i>[Signature]</i>	04.04.17	

REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	REV.	DATE	ALTERED CHECKED APPD.	DEPT. H.T.E.	UNTOL. DIMS. GR.	SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
									402	32000049014	1:5	83.00	0 20301 202 04	005	001
									TITLE <b>BOSS-I (CASTING &amp; PRE M/Cg.)</b>			DRAWING NO. <b>3-203-01-20215</b>		REV. <b>00</b>	
									SHT. NO. 1		NO. OF SHT. 1				

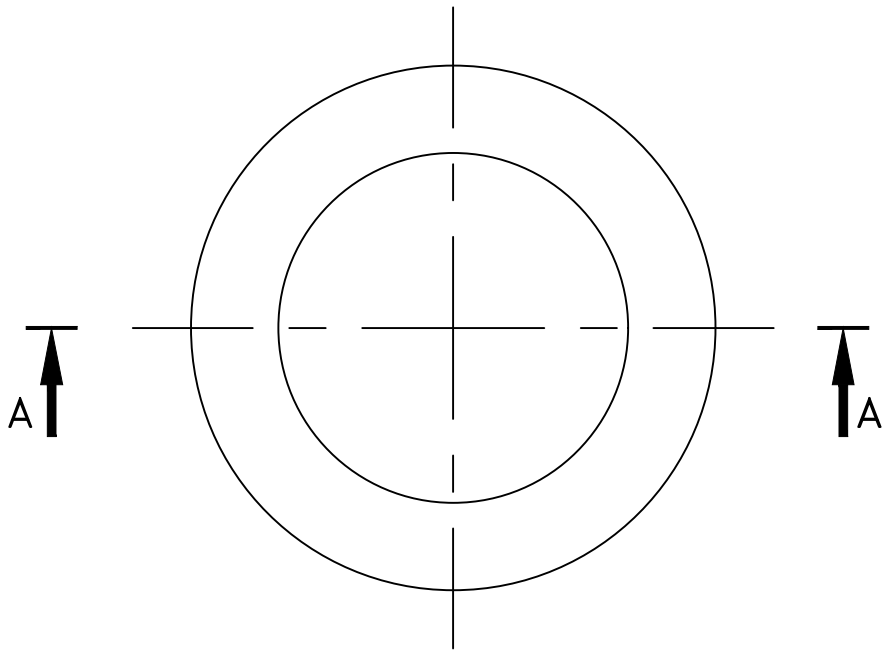
A3 SIZE

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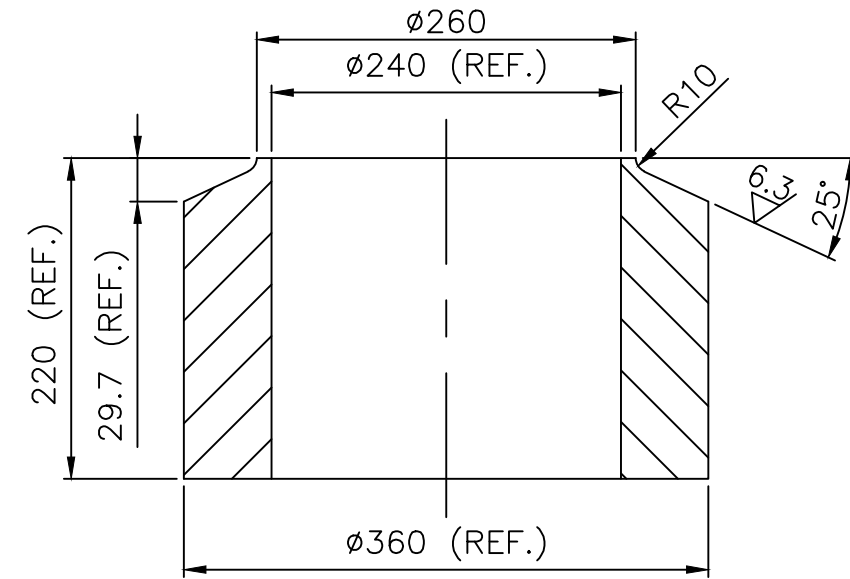
DRG. NO. 3-203-01-21515



SECTION-AA



ROUGH MACHINED CASTING



PRE MACHINING DETAILS

**TECHNICAL REQUIREMENTS**

1. DRG. SHOWS THE CASTING IN ROUGH MACHINED CONDITION.
2. SURFACE FINISH OF THE ROUGH MACHINED CASTING TO BE 12.5 MICRONS.
3. FOLLOWING NDT TO BE DONE ON ROUGH M/CED CASTING  
100% UT AS PER LEVEL-III OF AA0850104  
100% MPI AS PER LEVEL-III OF AA0850134
4. PATTERN NO.1240151 (NEW).
5. CASTING WEIGHT=97.7 KG.
6. CASTING TO BE PRE MACHINED AS SHOWN. (IT. NO. 05 OF DRG. NO. 02030121504)

59		64	65	75	78	79	25	27	29	58	59	60	77	29	31	34	45	55	56	57	58	65	72
VAR.00		REMARKS			VAR. NO.	ITEM NO.	DESCRIPTION			STD.	DRAWING NO.			IT.NO.	MATL. CODE			A	C	UNIT	UNIT WT.		
					001		BOSS (CASTING & PRE M/Cg.)								AA19521					97.7	001		
														32	33	46	54				68	71	73
														VAR.		MATL. SPCN.					QTY.		

28 → CARD TYPE-3


28 → CARD TYPE-1

28 → CARD TYPE-2

BEFORE START OF MANUFACTURING VENDOR/FYM(BHEL) TO GET THE LATEST REVISION NO. OF DRAWING CONFIRMED FROM HYDRO TURBINE ENGINEERING,BHEL, BHOPAL.  
IN CASE OF SLIGHTEST DOUBT CONSULT HYDRO TURBINE ENGINEERING, BHEL, BHOPAL

ADDITIONAL INFORMATION  
STATUS OF DRAWING U  
DISTRIBUTION OF PRINTS  
HTE-2, FYM-4, THX-1  
WTM(PLANNING)-1, WTM(STORE)-4

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT **KALESHWARAM LINK2 PACKAGE 2**

 BHARAT HEAVY ELECTRICALS LTD. BHOPAL	DRN	NAME	SIGN	DATE	NO. OF VAR.
	CKD	SKB	-sd-	02.04.21	
	APPD	PM	-sd-	02.04.21	
		HK	-sd-	02.04.21	

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	DEPT. H.T.E.	UNTOL. DIMS. GR.	SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO	NO.OF ITEM
		CHECKED			CHECKED			CHECKED	402	32000049014	1:5	90.50	0 20301 215 04	005	001
		APPD.			APPD.			APPD.	TITLE			DRAWING NO.		REV.	
									BOSS (CASTING & PRE M/Cg.)			3-203-01-21515		00	
												SHT. NO. 1	NO. OF SHT. 1		

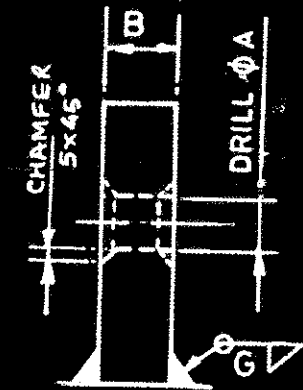
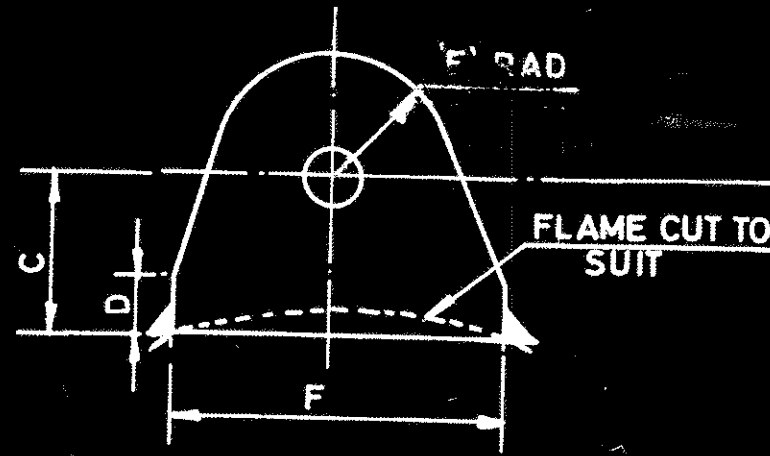
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO. 3 230 29 49140

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ITEM NO.	SHACKLE SIZE (SWL)	A	B	C	D	E	F	G	MATL CODE MATL. SPEC	WT. KG.
1	1 TONNE	22	20	35	15	35	90	7	AA10108	0.77
2	2.0 TONNES	30	25	50	20	45	115	8	AA101180812	1.60
3	3.5 TONNES	38	36	65	25	60	150	13	AA1011808125	3.85
4	5.5 TONNES	46	45	65	25	65	165	13	AA1011808125	5.35
5	7 TONNES TO 8.5	55	50	75	30	75	190	15	AA1011808218	7.80
6	10 TONNES TO 12	58	70	80	40	90	225	20	AA1011808242	14.90
7	14 TONNES TO 16	70	85	95	40	105	265	20	AA10108	24.70
8	20.0 TONNES	81	95	110	40	120	300	20	AA10108	35.88
9	25.0 TONNES	91	100	120	40	135	340	20	AA10108	46.96
10	30.0 TONNES	96	115	140	55	150	375	35	AA10108	69.50
11	40.0 TONNES	110	125	150	55	165	415	35	AA10108	89.20
12	50.0 TONNES	125	125	170	55	190	470	35	AA10108	116.20
13	80.0 TONNES	150	125	200	55	225	560	35	AA10108	161.8



TECH. REQ.

1. FLAME CUT TO BE OF NEAT APPEARANCE.
2. SWL TO BE CLEARLY STAMPED ON BOTH FACES.
3. FLAME CUT THE LUG TO SUIT THE MOUNTING PROFILE AS REQUIRED.
4. FOR EQUIVALENT / SUPERIOR MATERIAL SPECIFICATION REFER DRG. NO. 3-200-00-49019.
5. FOR TOLERANCES ON UNDIMENSIONED DIMENSIONS REFER DRG. NO. 3-200-00-49014.

C 350469  
REF. DRG. NO.  
SIGN & DATE  
INVENTORY NO.

58	64	65	75	78	79	25	27	29	001	LIFTING LUG	58	59	60	77	29	31	34	MATL. CODE	45	55	56	58	UNIT WT.	65	72
VAR.00	REMARKS		VAR. NO.	ITEM NO.	DESCRIPTION			STD.	DRAWING NO.	IT. NO.	MATL. CODE	A	C	UNIT	QTY.										
28 → CARD TYPE - 3			28 → CARD TYPE - 1			28 → CARD TYPE - 2																			

DRG. REVIEW				ADDITIONAL INFORMATION				STANDARD			
DEPT. NAME	SIGN	DATE	STATUS OF DRAWING	उत्पाद का प्रकार या ग्राहक/परियोजना का नाम				TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT			
FBM	KCG	1/5/20	HTE - 2, FBM - 7 WTM - 5, THX - 1	भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल BHARAT HEAVY ELECTRICALS LTD. BHOPAL				भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल BHARAT HEAVY ELECTRICALS LTD. BHOPAL			
DISTRIBUTION OF PRINTS				वनाया DRN.				नाम / NAME			
HTE - 2, FBM - 7 WTM - 5, THX - 1				जांचा CKD.				हस्ता. / SIGN			
				स्वीकृत APPD.				दि. / DATE			
				विभाग DEPT.				वै. की संख्या NO. OF VAR.			
				अन. टोल. नाप की श्रेणी UNTO. DIMS. GR.				दि. / DATE			
				कोड CODE				वै. की संख्या NO. OF VAR.			
				शीर्षक / TITLE				वै. की संख्या NO. OF VAR.			
				अनुपात SCALE				वै. की संख्या NO. OF VAR.			
				भार (कि.ग्रा.) WEIGHT (K.G.)				वै. की संख्या NO. OF VAR.			
				अस. ड्राइंग का संदर्भ REF. TO ASSY. DRG.				वै. की संख्या NO. OF VAR.			
				ड्राइंग क्र. / DRAWING NO.				वै. की संख्या NO. OF VAR.			
				पृष्ठ क्र. / SHT. NO. 1				वै. की संख्या NO. OF VAR.			
				पृष्ठों की सं. / NO. OF SHT. 1				वै. की संख्या NO. OF VAR.			

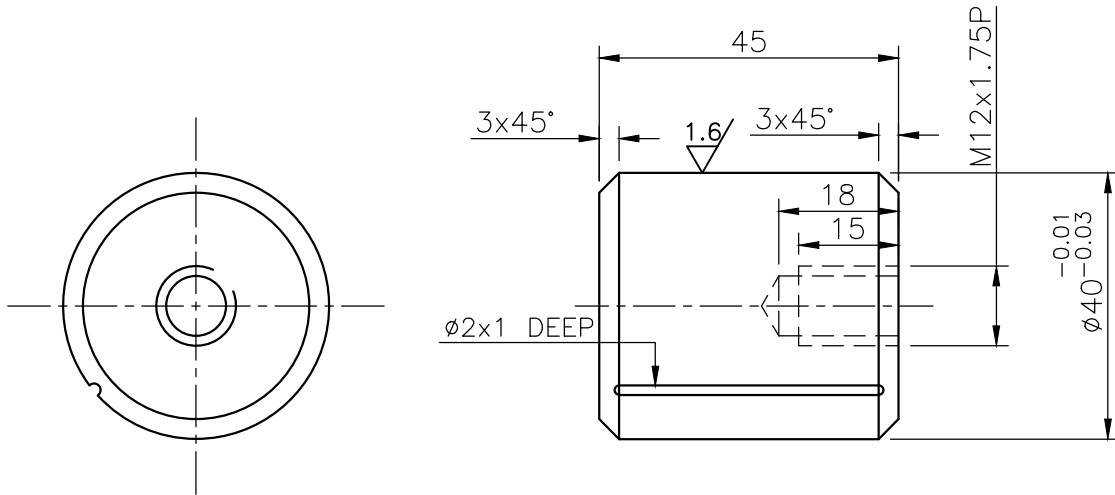
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

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REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	ADDITIONAL INFORMATION
		APPD.			APPD.	STATUS OF DRAWING 'U'
DISTRIBUTION OF PRINTS						HTE-2 THX-1 WTM(PLANING)-1 WTM(STORE)-4

3.2/ ALL OVER UNLESS OTHERWISE STATED



**TECHNICAL REQUIREMENTS**

1. REMOVE ALL BURRS AND SHARP EDGES.

4-202-01-184-08  
REF. DRG. NO.

SIGN. & DATE

INVENTORY NO.

REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	A	UNIT	57	58	UNIT WT.	65
				AA 1070223190					0.350	
				AA 10723						001
				46	MATL. SPCN.	54	C	68	QTY.	71

	BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE	NO. OF VAR.
	BHOPAL		CKD	NEERAJ	<i>[Signature]</i>	30.10.15	
			APPD	ND	<i>[Signature]</i>	30.10.15	

DEPT. H.T.E.	UNTOL. DIMS. GR.		SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
CODE 402	32000049014		1 : 1	0.350	0-203-01-184-01	047	001

TITLE	DRAWING NO.	REV.
<b>DOWEL</b>	4-203-01-184-02	00

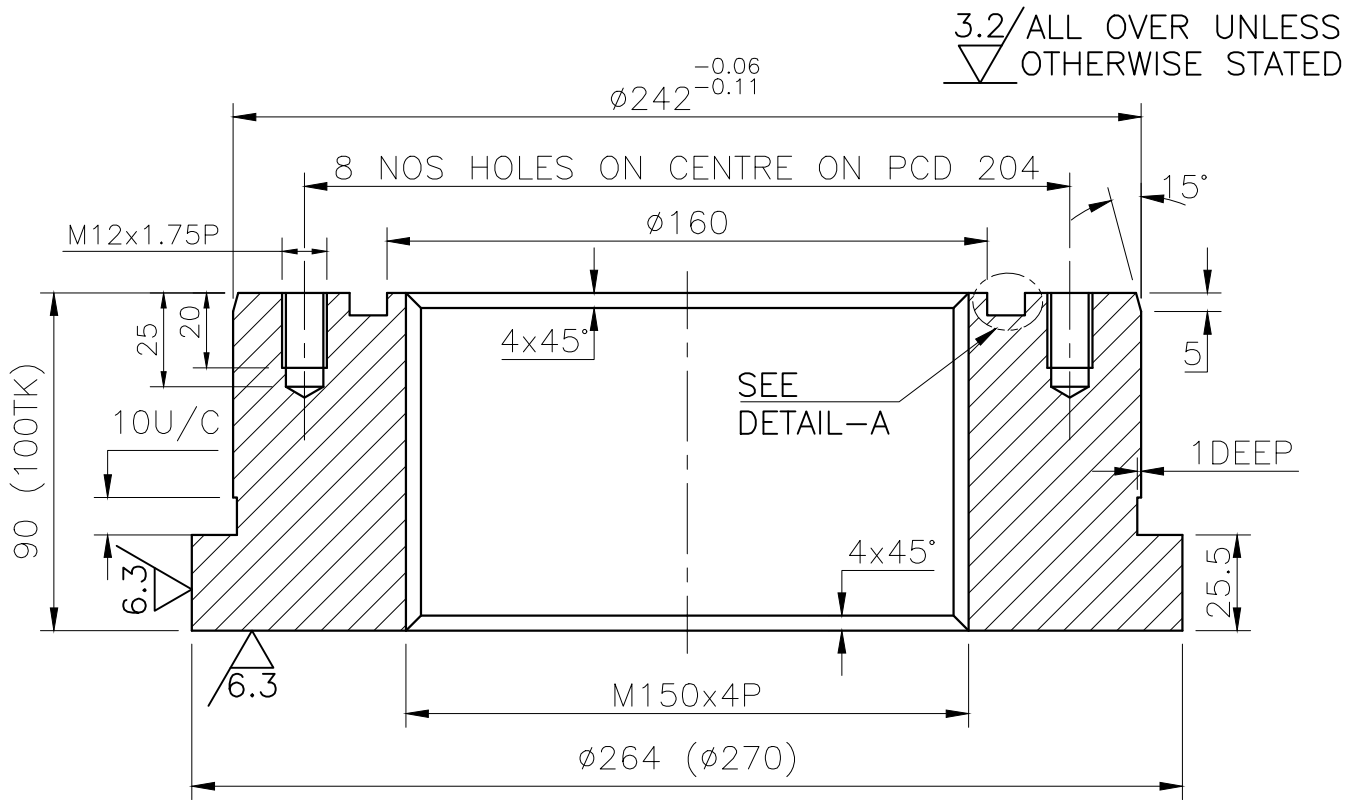
SHT. NO. 01	NO. OF SHT. 01
-------------	----------------

SIZE A4



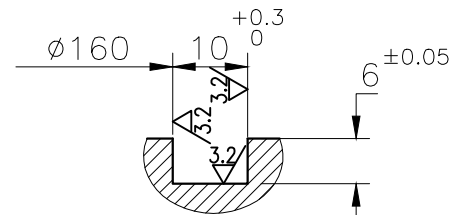
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REV. 02	DATE 25.02.21	ALTERED RRC <i>mmmm</i> CHECKED UK <i>mmmm</i> APPD. ND <i>mmmm</i>	REV. 01	DATE 29.08.20	ALTERED RRC <i>mmmm</i> CHECKED UK <i>mmmm</i> APPD. ND <i>mmmm</i>	ADDITIONAL INFORMATION
DIM. $\phi 160$ WAS $\phi 166$ & PCD204 WAS PCD208.			T.R. 4 ADDED.			STATUS OF DRAWING U
						DISTRIBUTION OF PRINTS HTE-2 THX-1 WTM(PLANNING)-1 WTM(STORE)-4



**TECHNICAL REQUIREMENTS:-**

1. REMOVE ALL BURRS AND SHARP EDGES.
2. PAINT AND PROTECT TO PROC. HT 00005 CAT 'G'.
3. THREADS TO BE CHECKED BY RELEVANT GAUGES.
4. ALTERNATIVELY USE  $\phi 300$  AA19331 BAR (AA1930231415).



**DETAIL-A**  
(SCALE 1:1)

INVENTORY NO. 9x145 MW PALAMURU RANGAREDDY LIS STAGE-III  
SIGN. & DATE 3 20301 18412  
REF. DRG. NO.

100 TK (USE OFF CUT)	001	SLEEVE	ASTM A 516	21.00
			Gr. 60/70	001
REMARKS	ITEM NO.	DESCRIPTION	MATL. CODE	58 UNIT WT. 65
			46 MATL. SPCN. 54	168 QTY. 71



**BHARAT HEAVY ELECTRICALS LTD.**  
BHOPAL

DRN	NAME AB	SIGN <i>[Signature]</i>	DATE 10.03.17	NO. OF VAR.
CKD	ND	<i>[Signature]</i>	10.03.17	
APPD	SK	<i>[Signature]</i>	10.03.17	

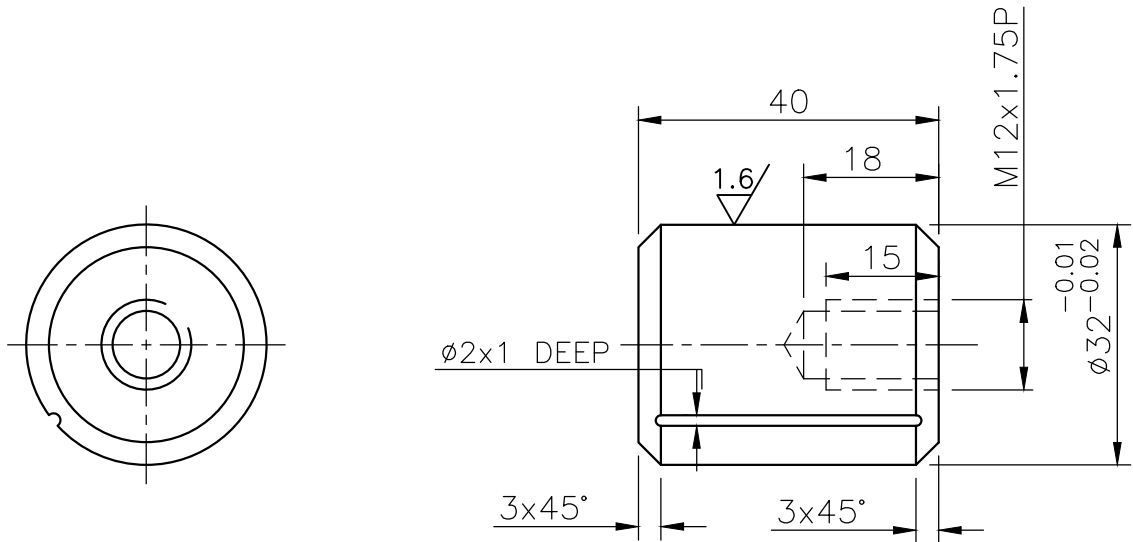
DEPT. H.T.E.	UNTOL. DIMS. GR.	SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
CODE 402	32000049014	1:2	21.00	0-203-01-202-04	008	001

TITLE	DRAWING NO.	REV.
<b>SLEEVE</b>	4-203-01-202-01	02
SHT. NO. 01	NO. OF SHT. 01	

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REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL INFORMATION
		CHECKED			CHECKED	
		APPD.			APPD.	
						STATUS OF DRAWING 'U'
						DISTRIBUTION OF PRINTS HTE-2 THX-1 WTM(PLANING)-1 WTM(STORE)-4

$\frac{3.2}{\nabla}$  ALL OVER UNLESS OTHERWISE STATED




**TECHNICAL REQUIREMENTS**

- REMOVE ALL BURRS AND SHARP EDGES.

0 203 01 18402 REF. DRG. NO.

REMARKS	ITEM NO.	DESCRIPTION	STD	AA1070223174	UNIT	0.25
				AA10723		001
				MATL. CODE	57	58 UNIT WT. 65
				MATL. SPCN.	54	68 QTY. 71

SIGN. & DATE

INVENTORY NO. <b>RANGAREDDY LIS-III</b> <b>9x145 MW</b>	DEPT. H.T.E. CODE 402	UNTOL. DIMS. GR. 32000049014	 BHARAT HEAVY ELECTRICALS LTD. BHOPAL	DRN	NAME	SIGN	DATE	NO. OF VAR.
				CKD	UK	<i>[Signature]</i>	09.02.21	
				APPD	ND	<i>[Signature]</i>	09.02.21	
				SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
				1 : 1	0.25	0-203-01-202-01	012	001
TITLE				DRAWING NO.				REV.
<b>DOWEL</b>				4-203-01-202-15				00
				SHT. NO. 01	NO. OF SHT. 01			

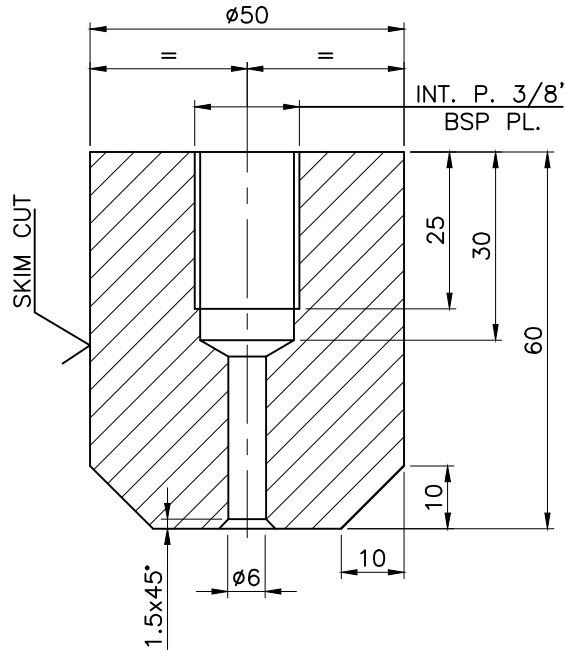
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

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REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL INFORMATION
		CHECKED			CHECKED	
		APPD.			APPD.	STATUS OF DRAWING
						DISTRIBUTION OF PRINTS
						HTE-2 THX-1 WTM(S)-4, WTM(P)-1


6.3 / ALL OVER UNLESS OTHERWISE STATED



**TECH. REQ:**

1. REMOVE BURRS AND SHARP EDGES.
2. PAINT & PROTECT THREADS AS PER PRODUCT STD. HT 00005 CAT 'G', REMAINING SURFACES NOT TO BE PAINTED.

42120419201	REF. DRG. NO.	001	BOSS 3/8" BSP	AA1070225185	Kg.	0.75
				AA10725	NO.	001
REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	57	58 UNIT WT. 65
				46 MATL. SPCN. 54	A C	68 QTY. 71

INVENTORY NO.	SIGN. & DATE	VISHNUGAD PIPALKOTI HEP	 BHARAT HEAVY ELECTRICALS LTD. BHOPAL	DRN	NAME	SIGN	DATE	NO. OF VAR.
				CKD	ND		04.08.18	
				APPD	SK		04.08.18	-
DEPT. H.T.E. CODE	UNTOL. DIMS. GR. REFER DRG.	GR.	SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO	NO.OF ITEM	
402	32000049014		1:1	0.75	1 216 04 19701	04	01	
TITLE					DRAWING NO.		REV.	
BOSS 3/8" BSP (FOR PRESSURE GAUGE)					4 216 04 19701		00	
				SHT. NO.	01	NO. OF SHT.	01	

SIZE A4

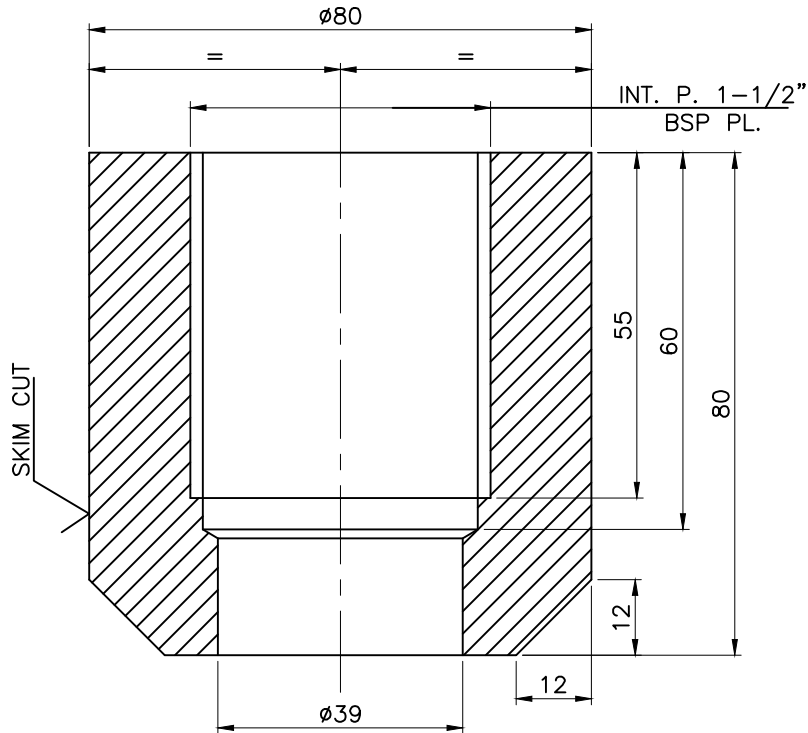
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

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REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL INFORMATION
		CHECKED			CHECKED	
		APPD.			APPD.	STATUS OF DRAWING
						DISTRIBUTION OF PRINTS
						HTE-2 THX-1 WTM(S)-4, WTM(P)-1

6.3 / ALL OVER UNLESS OTHERWISE STATED



**TECH. REQ:**

1. REMOVE BURRS AND SHARP EDGES.
2. PAINT & PROTECT THREADS AS PER PRODUCT STD. HT 00005 CAT 'G', REMAINING SURFACES NOT TO BE PAINTED.

REF. DRG. NO.	Ø80 BAR	001	BOSS 1-1/2" BSP	AA1010208241	Kg.	2.00
				AA10108	NO.	001
REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	UNIT	58 UNIT WT. 65
				46 MATL. SPCN. 54	A/C	68 QTY. 71

INVENTORY NO. SIGN. & DATE

VISHNUGAD PIPALKOTI HEP



BHARAT HEAVY ELECTRICALS LTD.  
BHOPAL

DRN	NAME	SIGN	DATE	NO. OF VAR.
CKD	RAMESH		03.11.18	
APPD	ND		03.11.18	
			03.11.18	-

DEPT. H.T.E. CODE 402	UNTOL. DIMS. GR. REFER DRG. 32000049014		SCALE 1:1	WEIGHT(K.G.) 2.00	REF.TO ASSY.DRG. 1 216 04 19701	ITEM NO 10	NO.OF ITEM 01
-----------------------	---	--	-----------	-------------------	---------------------------------	------------	---------------

TITLE	BOSS 1-1/2" BSP	DRAWING NO. 4 216 04 19702	REV. 00
SHT. NO.	01	NO. OF SHT.	01

SIZE A4



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02030120204 CBOM Var: 00

Revno: 1

Rev Date: 27.07.2021

Description: PIVOT RING(QUADRANTS)

Total weight: 2275.0

### RECORD OF CHANGES

Drawing No	Var	Revno	Rev Date	Description
02030120204	00	1	24.07.2021	Blank size & weight update in item 1 Blank weight update in item 9

CBOM - 02030120204 00

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	29.06.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Checked By	stemun	15.07.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Approved By	stevsh	15.07.2021	mteasr	15.07.2021	tbmrkr	15.07.2021	wtxblm	07.07.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

**CBOM No:** 02030120204 **CBOM Var:** 00  
**Description:** PIVOT RING(QUADRANTS)

**Revno:** 1

**Rev Date:** 27.07.2021

**Total weight:** 2275.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ	Cat	Zone	Var/Matl. Description	ENGG SIZE/GRP	Fab Wt	Route		Spare Code		Unit
0	02030120204 00			2275.0						
1(1)	PIVOT RING(QUADRANTS)			Y						
MF			N	2855.0	0306-0313-0236-0306-0236					
1		W96321501034		1963.0	4056.0X1267.0	1	1	4663.6	0.0	4663.6
1(1)	RING(QUADRANT)		Refer Drg No. 02030120204	Y	110 TK X 2000 X 6000					
MF DR	PLATE IS2062 E300 (BR) - 110TK				0072-0301-0306					KG
2		AA1011819228	AA10119	44.7	535.0X190.0	1	2	47.0	0.0	94.0
2(2)	JOINT FLANGE		Refer Drg No. 02030120204	Y	PL 56					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
3		AA1011819171	AA10119	6.6	190.0X140.0	1	5	7.0	0.0	35.0
5(5)	RIB-1		Refer Drg No. 02030120204	Y	PL 32					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
4		AA1011819171	AA10119	9.5	200.0X190.0	1	8	10.0	0.0	80.0
8(8)	RIB-2		Refer Drg No. 02030120204	Y	PL 32					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
5	32030120215 00	W92320301020	AA19521	83.0	330.0X330.0	1	0	0.0	0.0	5.0
5(5)	BOSS			Y				L=225mm		
CE DR					0073-0317-0306					NO
6		AA1011819198	AA10119	28.9	485.0X190.0	1	4	30.4	0.0	121.6
4(4)	RIB-3		Refer drg 02030120204	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
7		AA1011819155	AA10119	5.0	505.0X50.0	1	2	5.2	0.0	10.4
2(2)	L=505mm;W=50mm		STRIP	Y	PL 25					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
8	42030120201 00	W96321501026		21.0	270.0X270.0	1	0	0.0	0.0	0.0
5(5)	SLEEVE			Y	120 TK X 2000 X 6000			L=100 (ROUND D270)		
MF DR					0072-0236-0306					KG
9		W96321501158		7.45	594.0X100.0	1	6	7.84	0.0	47.04
6(6)	S.S. LINER		Refer Drg.02030120204	Y	16TK X 1200 WIDTH X 5000 LONG;					
MF DR	S. S PLATES (13% CR - 4% NI)				0072-0301-0306					KG

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	29.06.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Checked By	stemun	15.07.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Approved By	stevsh	15.07.2021	mteasr	15.07.2021	tbrmrkr	15.07.2021	wtxblm	07.07.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 02030120204 **CBOM Var:** 00  
**Description:** PIVOT RING(QUADRANTS)

**Revno:** 1

**Rev Date:** 27.07.2021

**Total weight:** 2275.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	42030118402 00	AA1070223190	AA10723	0.35	55.0	1	1	1.1	0.0	1.1
1(1)	DOWEL		DOWEL DIA.40 X 45	Y	RND 56		L=55			
MF DR					0072-0236					KG
11		AA1011819210	AA10119	3.14	100.0X80.0	1	1	3.3	0.0	3.3
1(1)	100*80		PLATE	Y	PL 50					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
12	42030120215 00	AA1070223174	AA10723	0.25	215.0	1	1	2.68	0.0	2.68
1(1)	DOWEL		DIA.32 X40L	Y	RND 45					
MF CD					0073-0236-0306					KG

CBOM - 02030120204

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	29.06.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Checked By	stemun	15.07.2021	mtesub	12.07.2021	ttxsk	15.07.2021	bk2rd	07.07.2021
Approved By	stevsh	15.07.2021	mteasr	15.07.2021	tbmrkr	15.07.2021	wtxblm	07.07.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02030121504 CBOM Var: 00  
Description: PIVOT RING(IN QUADRANTS)

Revno: 2

Rev Date: 27.07.2021

Total weight: 11050.0

### RECORD OF CHANGES

Drawing No	Var	Revno	Rev Date	Description
02030121504	00	1	19.07.2021	Raw Material Thickness to be changed from 220mm to 120mm.Grade to be revised to IS2062.
02030121504	00	2	27.07.2021	Blank weight update in item 1,8 & 9

CBOM - 02030121504 00

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	18.06.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Checked By	stemun	07.07.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Approved By	stevsh	12.07.2021	mtesar	07.07.2021	tbrmrkr	08.07.2021	wtxblm	03.07.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 02030121504 **CBOM Var:** 00  
**Description:** PIVOT RING(IN QUADRANTS)

**Revno:** 2

**Rev Date:** 27.07.2021

**Total weight:** 11050.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	02030121504 00			11050.0						
1(1)	PIVOT RING(IN QUADRANTS)			Y						
MF			N		0306-0313-0236-0306-0236					
1		W96321501034		2440.0	4543.0X1423.0	1	4	5866.0	0.0	23464.0
4(4)			Refer Drg No. 02030121504	Y	110 TK X 2000 X 6000					
MF DR	PLATE IS2062 E300 (BR) - 110TK				0072-0301-0306					KG
2		AA1011819260	AA10119	75.0	636.0X190.0	1	8	80.0	0.0	640.0
8(8)			Refer Drg No. 02030121504	Y	PL 80					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
3		AA1011819171	AA10119	6.9	190.0X190.0	1	20	9.5	0.0	190.0
20(20)			Refer Drg No. 02030121504	Y	PL 32					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
4		AA1011819171	AA10119	6.9	190.0X145.0	1	40	7.3	0.0	292.0
40(40)			Refer Drg No. 02030121504	Y	PL 32					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
5	32030121515 00	W92320301020	AA19521	90.5	360.0X360.0	1	20	1.0	0.0	20.0
20(20)	BOSS			Y						
CE DR					0073-0317-0306					NO
6		AA1011819198	AA10119	30.0	556.0X175.0	1	16	32.1	0.0	513.6
16(16)			Refer drg 02030121504	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
7		AA1011819155	AA10119	6.0	605.0X50.0	1	6	6.3	0.0	37.8
6(6)	L=606mm;W=50mm			Y	PL 25					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
8	42030118412 00	W96321501026		28.0	300.0X300.0	1	20	163.0	0.0	3260.0
20(20)	SLEEVE			Y	120 TK X 2000 X 6000			L=100 (ROUND D300)		
MF DR					0073-0236-0306					KG
9		W96321501166		6.9	665.0X100.0	1	24	7.3	0.0	175.2
24(24)			Refer Drg.02030121504	Y	12TK X 1200 WIDTH X 4200 LONG					
MF DR	S. S PLATES (13% CR - 4% NI)				0072-0301-0306					KG

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	18.06.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Checked By	stemun	07.07.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Approved By	stevsh	12.07.2021	mteasr	07.07.2021	tbrmrkr	08.07.2021	wtxblm	03.07.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02030121504 CBOM Var: 00  
Description: PIVOT RING(IN QUADRANTS)

Revno: 2

Rev Date: 27.07.2021

Total weight: 11050.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	42030118402 00	AA1070223190	AA10723	0.35	55.0	1	8	1.1	0.0	8.8
8(8)	DOWEL			Y	RND 56		L=55			
MF DR					0072-0236					KG
11		AA1011819210	AA10119	4.0	100.0X80.0	1	2	4.2	0.0	8.4
2(2)	100*80			Y	PL 50					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG

CBOM - 02030121504

	ENGG		MTE		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date	Initial	Date
Worked By	stemoh	18.06.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Checked By	stemun	07.07.2021	mtesub	07.07.2021	ttxsk	08.07.2021	bk2rd	03.07.2021
Approved By	stevsh	12.07.2021	mteasr	07.07.2021	tbrmrkr	08.07.2021	wtxblm	03.07.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02120420102    CBOM Var: 00    Revno: 0    Rev Date: 01.07.2021  
Description: INLET PIPE    Total weight: 7010.0

CBOM - 02120420102 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	steukh	21.06.2021	ttxdee	30.06.2021	wtxmkc	29.06.2021
Checked By	stesm	23.06.2021	ttxdee	30.06.2021	wtxmkc	29.06.2021
Approved By	sterr1	01.07.2021	tbnrkr	30.06.2021	wtxblm	29.06.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

CBOM No: 02120420102 CBOM Var: 00

Revno: 0

Rev Date: 01.07.2021

Description: INLET PIPE

Total weight: 7010.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	02120420102 00			7010.0						
1(1)	INLET PIPE			Y						
MF			N		0306-0236					
1		W96321501069		682.0	145.0X11500.0	1	1	769.7	0.0	769.7
1(1)	CYLINDER		MFG ASPER DRG 02120420102	Y	56TK X 1250 WIDTH X 5500 LG			-to be made in 4 parts.		
MF DR	S. S PLATES (13% CR - 4% NI)				0072-0301-0306					KG
2		AA1011819139	AA10119	13.0	80.0X150.0	1	1	1.97	0.0	1.97
1(1)	RIB IV 20TK		MFG ASPER DRG 02120420102	Y	PL 20					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
3		W96321204013		5775.0	1822.0X12252.0	1	1	7359.9	0.0	1.0
1(1)	CONE		MFG ASPER DRG 02120420102	Y	11000MM(L)X1900MM(W)X40MM(TK)			-to be made in 4 parts.		
MF DR	PLATE 40TK ASTM A 516 GR-70				0072-0301-0306					NO
4		AA1011819244	AA10119	273.0	1150.0X1150.0	1	1	763.04	0.0	763.04
1(1)	MANHOLE SEAT		MFG ASPER DRG 02120420102	Y	PL 70					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
5		AA1011819228	AA10119	152.0	504.0X910.0	1	1	211.69	0.0	211.69
1(1)	COMPENSATING RING		MFG ASPER DRG 02120420102	Y	PL 56					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
6		AA1041155700	AA10455	88.56	1130.0	1	1	1.13	0.0	1.13
1(1)	L 1130mm, REWORK THK TO 10.31		MFG ASPER DRG 02120420102	Y	PI 323.9X12.5					
MF DR	PIPE				0072-0315-0306					MR
7		AA1011819244	AA10119	120.0	510.0X510.0	1	1	150.0	0.0	150.0
1(1)	BYPASS FLANGE		MFG ASPER DRG 02120420102	Y	PL 70					
MF DR	ST-FE410 WB-PLATE				0072-0301-0236-0306					KG
8		AA1070225185	AA10725	0.7	70.0	1	2	1.13	0.0	2.26
2(2)	BOSS 3/8" BSP		MFG ASPER DRG 02120420102	Y	RND 50					
MF DR	ST-04CR18NI10TI20-RND				0072-0315-0236-0306					KG
9		W96321301060		45.0	450.0X450.0	1	1	216.98	0.0	216.98
1(1)	DRAIN FLANGE		MFG ASPER DRG 02120420102	Y	3500X1700X130			dia-450		
MF DR	PLATE 130TK ASTM A 537 CL-2				0072-0301-0236-0306					KG

ENGG

TTX

WTX

Initial

Date

Initial

Date

Initial

Date

Worked By

steukh

21.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Checked By

stesm

23.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Approved By

sterr1

01.07.2021

tbrmrkr

30.06.2021

wtxblm

29.06.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

CBOM No: 02120420102 CBOM Var: 00

Revno: 0

Rev Date: 01.07.2021

Description: INLET PIPE

Total weight: 7010.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	32302949140 05	AA1011819210	AA10119	7.8	190.0X150.0	1	6	11.8	0.0	70.8
6(6)	LIFTING LUG			Y	PL 50					
MF DR					0072-0301-0317-0306					KG
11		AA1011819139	AA10119	9.7	384.0X161.0	1	20	10.19	0.0	203.8
20(20)	SUPPORT Plate 20TK		MFG ASPER DRG 02120420102	Y	PL 20					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
12		AA1012508234	AA10108	416.0	28000.0	1	1	417.2	0.0	417.2
1(1)	TRANSPORT STAYS, RM L= 28M		MFG ASPER DRG 02120420102	Y	100X100X10					
RM DR	ST-A(FE410 WA)ANGLE				0072-0301-0306					KG
13		HW1071730967	AA10730	0.45	25.0X1000.0	1	1	2.0	0.0	2.0
1(1)	GRID BAR 10X25X1000 LONG		MFG ASPER DRG 02120420102	Y	SH 10					
RM DR	ST-CR-NI-MO-SHEET				0072-0301-0306					KG
14		AA1011819139	AA10119	14.1	513.0X280.0	1	1	23.67	0.0	23.67
1(1)	RIB I 20TK		MFG ASPER DRG 02120420102	Y	PL 20					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
15		AA1011819139	AA10119	39.0	183.0X1386.0	1	1	41.81	0.0	41.81
1(1)	RIB II 20TK		MFG ASPER DRG 02120420102	Y	PL 20					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
16		AA1011819139	AA10119	27.1	400.0X802.0	1	1	52.88	0.0	52.88
1(1)	RIB III 20TK		MFG ASPER DRG 02120420102	Y	PL 20					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
17		AA1011819201	AA10119	40.8	560.0X1078.0	1	2	223.9	0.0	447.8
2(2)	MAN HOLE RIB I, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
18		AA1011819201	AA10119	45.8	700.0X685.0	1	2	177.8	0.0	355.6
2(2)	MAN HOLE RIB I, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
19		AA1011819201	AA10119	51.7	700.0X720.0	1	2	186.9	0.0	373.8
2(2)	MAN HOLE RIB III, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG

ENGG

TTX

WTX

Initial

Date

Initial

Date

Initial

Date

Worked By

steukh

21.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Checked By

stesm

23.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Approved By

sterr1

01.07.2021

tbrmrkr

30.06.2021

wtxblm

29.06.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

CBOM No: 02120420102 CBOM Var: 00

Revno: 0

Rev Date: 01.07.2021

Description: INLET PIPE

Total weight: 7010.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
20		AA1011819201	AA10119	56.7	1178.0X734.0	1	2	320.7	0.0	641.4
2(2)	MAN HOLE RIB IV, PLATE TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
21		AA1011819201	AA10119	42.0	1014.0X246.0	1	2	92.5	0.0	185.0
2(2)	INNER WALL QUAD. I, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
22		AA1011819201	AA10119	49.0	1014.0X204.0	1	2	76.7	0.0	153.4
2(2)	INNER WALL QUAD. II, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
23		AA1011819201	AA10119	58.2	1107.0X266.0	1	2	109.21	0.0	218.42
2(2)	OUTER WALL QUAD. I, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
24		AA1011819201	AA10119	63.8	1107.0X217.0	1	2	89.1	0.0	178.2
2(2)	OUTER WALL QUAD. II, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
25		AA1011819201	AA10119	11.0	200.0X150.0	1	1	11.12	0.0	11.12
1(1)	PARTITION RIB I, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
26		AA1011819201	AA10119	14.0	200.0X213.0	1	1	15.8	0.0	15.8
1(1)	PARTITION RIB II, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
27		AA1011819201	AA10119	13.8	155.0X281.0	1	2	16.15	0.0	32.3
2(2)	PARTITION RIB III, TK 45mm		MFG ASPER DRG 02120420102	Y	PL 45					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG

ENGG

TTX

WTX

Initial

Date

Initial

Date

Initial

Date

Worked By

steukh

21.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Checked By

stesm

23.06.2021

ttxdee

30.06.2021

wtxmkc

29.06.2021

Approved By

sterr1

01.07.2021

tbrmrkr

30.06.2021

wtxblm

29.06.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02120421502 CBOM Var: 00 Revno: 1 Rev Date: 29.07.2021  
Description: INLET PIPE Total weight: 8850.0

### RECORD OF CHANGES

Drawing No	Var	Revno	Rev Date	Description
02120421502	00	1	29.07.2021	Norm per piece updation in item no:1 & 9

CBOM - 02120421502 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stelok	03.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Checked By	stelpt	06.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Approved By	stesan	12.07.2021	tbrmrkr	07.07.2021	wtxblm	06.07.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

CBOM No: **02120421502** CBOM Var: **00**

Revno: **1**

Rev Date: **29.07.2021**

Description: **INLET PIPE**

Total weight: **8850.0**

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	02120421502 00			8850.0						
1(1)	INLET PIPE			Y						
MF			N		0306-0236					
1		W96321501077		604.0	11233.0X142.0	1	1	657.0	0.0	657.0
1(1)	CYLINDER (SS)		MFG ASPER DRG.02120421502	Y	50TK X 1250 WIDTH X 6000 LG					
MF DR	S. S PLATES (13% CR - 4% NI)				0072-0301-0306					KG
2		AA1011819198	AA10119	5125.0	3182.0X1554.0	1	1	6527.2	0.0	6527.2
1(1)	CONE		MFG ASPER DRG.02120421502	Y	PL 40			Total 4 quadrants BA included		
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
3		AA1011819198	AA10119	1538.0	11528.0X440.0	1	1	1674.0	0.0	1674.0
1(1)	CYLINDER		MFG ASPER DRG.02120421502	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
4		AA1011819244	AA10119	290.0	1040.0X1040.0	1	1	625.0	0.0	625.0
1(1)	MANHOLE SEAT		MFG ASPER DRG.02120421502	Y	PL 70			Dia 1040/640mm		
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
5		AA1011819228	AA10119	130.0	981.0X570.0	1	1	258.0	0.0	258.0
1(1)	COMPENSATING RING		MFG ASPER DRG.02120421502	Y	PL 56					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
6		AA1041155700	AA10455	96.0	1200.0	1	1	1.2	0.0	1.2
1(1)	L=1200, REWORK THK TO 10.31		MFG ASPER DRG.02120421502	Y	PI 323.9X12.5			L=1200mm		
MF DR	PIPE				0072-0315-0306					MR
7		AA1011819244	AA10119	120.0	510.0X510.0	1	1	150.0	0.0	150.0
1(1)	BY PASS FLANGE		MFG ASPER DRG.02120421502	Y	PL 70			Dia 510/320mm		
MF DR	ST-FE410 WB-PLATE				0072-0301-0317-0306					KG
8		AA1070225185	AA10725	0.7	70.0	1	2	1.4	0.0	2.8
2(2)	BOSS 3/8" BSP		MFG ASPER DRG.02120421502	Y	RND 50			L=70mm		
MF DR	ST-04CR18NI10TI20-RND				0072-0301-0317-0306					KG
9		W96321301060		94.0	450.0X450.0	1	1	217.0	0.0	217.0
1(1)	DRAIN FLANGE		MFG ASPER DRG.02120421502	Y	3500X1700X130			Dia 450/240mm		
MF DR	PLATE 130TK ASTM A 537 CL-2				0072-0301-0236-0306					KG

**ENGG**

**TTX**

**WTX**

**Initial**

**Date**

**Initial**

**Date**

**Initial**

**Date**

Worked By

stelok

03.07.2021

ttxdk

06.07.2021

bk2rd

06.07.2021

Checked By

stelpt

06.07.2021

ttxdk

06.07.2021

bk2rd

06.07.2021

Approved By

stesan

12.07.2021

tbrmrkr

07.07.2021

wtxblm

06.07.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 02120421502    **CBOM Var:** 00    **Revno:** 1    **Rev Date:** 29.07.2021  
**Description:** INLET PIPE    **Total weight:** 8850.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ	Cat	Zone	Var/Matl. Description	ENG SIZE/GRP	Fab Wt	Route		Spare Code		Unit
10	32302949140 05	AA1011819210	AA10119	7.8	190.0X150.0	1	8	11.8	0.0	94.4
8(8)	LIFTING LUG			Y	PL 50					
MF	DR				0072-0301-0317-0306					KG
11		AA1011819139	AA10119	15.7	1090.0X93.0	1	1	16.7	0.0	16.7
1(1)	RIB-1 (20TK)		MFG ASPER DRG.02120421502	Y	PL 20					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
12		AA1012508234	AA10108	447.0	30000.0	1	1	469.0	0.0	469.0
1(1)	TRANSPORT STAYS, RM L= 30M		MFG ASPER DRG.02120421502	Y	100X100X10			L=30000mm		
RM	DR		ST-A(FE410 WA)ANGLE		0072-0301-0306					KG
13		HW1071730967	AA10730	1.96	1000.0	1	1	2.1	0.0	2.1
1(1)	GRATING BAR 10TKX25X1000 LONG		MFG ASPER DRG.02120421502	Y	SH 10			L=1000mm		
MF	DR		ST-CR-NI-MO-SHEET		0072-0301-0306					KG
14		AA1011819139	AA10119	8.25	565.0X93.0	1	1	8.7	0.0	8.7
1(1)	RIB-2 (20TK)		MFG ASPER DRG.02120421502	Y	PL 20					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
15		AA1011819139	AA10119	10.7	735.0X93.0	1	1	11.3	0.0	11.3
1(1)	RIB-3 (20TK)		MFG ASPER DRG.02120421502	Y	PL 20					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
16		AA1011819139	AA10119	10.5	720.0X93.0	1	1	11.1	0.0	11.1
1(1)	RIB-4 (20TK)		MFG ASPER DRG.02120421502	Y	PL 20					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
17		AA1011819198	AA10119	24.0	377.0X250.0	1	2	31.1	0.0	62.2
2(2)	MAIN HOLE RIB-1, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
18		AA1011819198	AA10119	22.5	357.0X250.0	1	2	29.5	0.0	59.0
2(2)	MAIN HOLE RIB-2, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG
19		AA1011819198	AA10119	21.2	300.0X239.0	1	1	23.7	0.0	23.7
1(1)	MAIN HOLE RIB-3, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF	DR		ST-FE410 WB-PLATE		0072-0301-0306					KG

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stelok	03.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Checked By	stelpt	06.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Approved By	stesan	12.07.2021	tbrmrkr	07.07.2021	wtxblm	06.07.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02120421502 CBOM Var: 00

Revno: 1

Rev Date: 29.07.2021

Description: INLET PIPE

Total weight: 8850.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
20		AA1011819198	AA10119	13.8	244.0X200.0	1	2	16.1	0.0	32.2
2(2)	MAIN HOLE RIB-4, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
21		AA1011819198	AA10119	16.4	296.0X200.0	1	2	19.5	0.0	39.0
2(2)	MAIN HOLE RIB-5, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
22		AA1011819198	AA10119	12.1	211.0X200.0	1	2	14.0	0.0	28.0
2(2)	MAIN HOLE RIB-6, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
23		AA1011819198	AA10119	14.5	240.0X207.0	1	1	16.4	0.0	16.4
1(1)	MAIN HOLE RIB-7, 40TK		MFG ASPER DRG.02120421502	Y	PL 40					
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
24		AA1011819201	AA10119	41.0	1436.0X242.0	1	2	129.0	0.0	258.0
2(2)	INNER CYLINDER SEG.-1, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				BA included	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
25		AA1011819201	AA10119	38.0	0.0	1	0	0.0	0.0	0.0
2(2)	INNER CYLINDER SEG.-2, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				Included in item no: 1-24	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
26		AA1011819201	AA10119	10.7	1923.0X280.0	1	2	200.0	0.0	400.0
2(2)	OUTER CYLINDER SEG.-1, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				BA included	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
27		AA1011819201	AA10119	52.7	0.0	1	0	0.0	0.0	0.0
2(2)	OUTER CYLINDER SEG.-2, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				Included in item no: 1-26	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
28		AA1011819201	AA10119	48.9	0.0	1	0	0.0	0.0	0.0
2(2)	OUTER CYLINDER SEG.-3, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				Included in item no: 1-26	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
29		AA1011819201	AA10119	9.2	0.0	1	0	0.0	0.0	0.0
2(2)	OUTER CYLINDER SEG.-4, 45TK		MFG ASPER DRG.02120421502	Y	PL 45				Included in item no: 1-26	
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG

ENGG

TTX

WTX

Initial

Date

Initial

Date

Initial

Date

Worked By

stelok

03.07.2021

ttxdk

06.07.2021

bk2rd

06.07.2021

Checked By

stelpt

06.07.2021

ttxdk

06.07.2021

bk2rd

06.07.2021

Approved By

stesan

12.07.2021

tbrmrkr

07.07.2021

wtxblm

06.07.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 02120421502    CBOM Var: 00    Revno: 1    Rev Date: 29.07.2021  
Description: INLET PIPE    Total weight: 8850.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description				Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ	Cat	Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit

CBOM - 02120421502 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stelok	03.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Checked By	stelpt	06.07.2021	ttxdk	06.07.2021	bk2rd	06.07.2021
Approved By	stesan	12.07.2021	tbnrkr	07.07.2021	wtxblm	06.07.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

**CBOM No:** 12050118404 **CBOM Var:** 00  
**Description:** NUT GUARD (MOTOR END)

**Revno:** 0

**Rev Date:** 29.06.2021

**Total weight:** 400.0

CBOM - 12050118404 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	steadr	10.06.2021	txsk	28.06.2021	wtxman	17.06.2021
Checked By	sterks	26.06.2021	txsk	28.06.2021	bk2rd	17.06.2021
Approved By	stesun	29.06.2021	tbrkr	28.06.2021	wtxblm	17.06.2021



## COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 12050118404 **CBOM Var:** 00  
**Description:** NUT GUARD (MOTOR END)

**Revno:** 0

**Rev Date:** 29.06.2021

**Total weight:** 400.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description				Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ	Cat	Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	12050118404	00				400.0						
1(1)	NUT GUARD (MOTOR END)					Y						
MF					N		0306-0313-0236					
1				AA1011819163	AA10119	131.5	756.0X1496.0	1	2	261.25	0.0	522.5
2(2)	RING HALF				ITEM 1 OF DRG 12050118404	Y	PL 28					
MF DR	ST-FE410 WB-PLATE						0072-0301-0306					KG
2				AA1011819163	AA10119	111.0	229.0X2643.0	1	2	139.81	0.0	279.62
2(2)	CYLINDER HALF				ITEM 2 OF DRG 12050118404	Y	PL 28			B.Allowance 300mm included		
MF DR	ST-FE410 WB-PLATE						0072-0301-0306					KG
3				AA1011819090	AA10119	1.2	240.0X85.0	1	8	2.0	0.0	16.0
8(8)	RIB				ITEM 3 OF DRG 12050118404	Y	PL 12					
MF DR	ST-FE410 WB-PLATE						0072-0301-0317-0306					KG
4				AA1011819163	AA10119	4.0	240.0X85.0	1	2	4.7	0.0	9.4
2(2)	JOINT FLANGE-I				ITEM 4 OF DRG 12050118404	Y	PL 28					
MF DR	ST-FE410 WB-PLATE						0072-0301-0306					KG
5				AA1011819163	AA10119	4.0	240.0X85.0	1	2	4.7	0.0	9.4
2(2)	JOINT FLANGE-II				ITEM 5 OF DRG 12050118404	Y	PL 28					
MF DR	ST-FE410 WB-PLATE						0072-0301-0306					KG
6				AA1070221090	AA10721	0.04	30.0	1	2	0.06	0.0	0.12
2(2)	PARALLEL DOWEL DIA16X25 LONG				ITEM 6 OF DRG 12050118404	Y	RND 18			L=30 mm		
MF DR	ST-20CR13-H&T-RND						0072-0315-0317-0306					KG
7				AA1010208195	AA10108	2.3	175.0	1	3	3.55	0.0	10.65
3(3)	BOSS				ITEM 7 OF DRG 12050118404	Y	RND 56			L=175 mm		
MF DR	ST-A(FE410 WA)						0072-0315-0317-0306					KG

**ENGG**

**TTX**

**WTX**

**Initial**

**Date**

**Initial**

**Date**

**Initial**

**Date**

Worked By

steadr

10.06.2021

ttxsk

28.06.2021

wtxman

17.06.2021

Checked By

sterks

26.06.2021

ttxsk

28.06.2021

bk2rd

17.06.2021

Approved By

stesun

29.06.2021

tbrmrkr

28.06.2021

wtxblm

17.06.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

**CBOM No:** 12050120203 **CBOM Var:** 00  
**Description:** NUT GUARD (MOTOR END)

**Revno:** 0

**Rev Date:** 29.06.2021

**Total weight:** 385.0

CBOM - 12050120203 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	steadr	17.06.2021	ttxmss	28.06.2021	wtxmkc	26.06.2021
Checked By	sterks	26.06.2021	ttxsso	28.06.2021	wtxmkc	26.06.2021
Approved By	stesun	29.06.2021	ttxsso	28.06.2021	wtxblm	26.06.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 12050120203 **CBOM Var:** 00  
**Description:** NUT GUARD (MOTOR END)

**Revno:** 0

**Rev Date:** 29.06.2021

**Total weight:** 385.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description				Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ	Cat	Zone	Var/Matl.	Description	ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	12050120203	00				385.0						
1(1)	NUT GUARD (MOTOR END)					Y						
MF	DR				N		0306-0236					
1				AA1011819163	AA10119	130.5	1496.0X756.0	1	2	261.3	0.0	522.6
2(2)	RING HALF				ITEM 1 OF DRG 12050120203	Y	PL 28					
MF	DR			ST-FE410	WB-PLATE		0072-0301-0306					KG
2				AA1011819163	AA10119	111.0	2722.0X229.0	1	2	144.0	0.0	288.0
2(2)	CYLINDER HALF				ITEM 2 OF DRG 12050120203	Y	PL 28					
MF	DR			ST-FE410	WB-PLATE		0072-0301-0306					KG
3				AA1011819090	AA10119	1.2	240.0X85.0	1	8	2.0	0.0	16.0
8(8)	RIB				ITEM 3 OF DRG 12050120203	Y	PL 12					
MF	DR			ST-FE410	WB-PLATE		0072-0301-0317-0306					KG
4				AA1011819163	AA10119	4.0	240.0X85.0	1	2	4.71	0.0	9.42
2(2)	JOINT FLANGE-I				ITEM 4 OF DRG 12050120203	Y	PL 28					
MF	DR			ST-FE410	WB-PLATE		0072-0301-0306					KG
5				AA1011819163	AA10119	4.0	240.0X85.0	1	2	4.71	0.0	9.42
2(2)	JOINT FLANGE-II				ITEM 5 OF DRG 12050120203	Y	PL 28					
MF	DR			ST-FE410	WB-PLATE		0072-0301-0306					KG
6				AA1070221090	AA10721	0.04	30.0	1	2	0.06	0.0	0.12
2(2)	PARALLEL DOWEL DIA16X25 LONG				ITEM 6 OF DRG 12050120203	Y	RND 18					
MF	DR			ST-20CR13-H&T-RND			0072-0315-0317-0306					KG
7				AA1010208209	AA10108	1.1	60.0	1	4	1.54	0.0	6.16
4(4)	BOSS				ITEM 7 OF DRG 12050120203	Y	RND 63					
MF	DR			ST-A(FE410	WA)		0072-0315-0317-0306					KG

**ENGG**

**TTX**

**WTX**

Worked By	steadr	17.06.2021	ttxmss	28.06.2021	wtxmkc	26.06.2021
Checked By	sterks	26.06.2021	ttxsso	28.06.2021	wtxmkc	26.06.2021
Approved By	stesun	29.06.2021	ttxsso	28.06.2021	wtxblm	26.06.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

**CBOM No:** 12120520101 **CBOM Var:** 00 **Revno:** 0 **Rev Date:** 01.07.2021  
**Description:** OUTLET PIPE TO DISCHARGE VALVE **Total weight:** 9015.0

CBOM - 12120520101 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stevm	25.06.2021	ttxdee	01.07.2021	wtxmkc	30.06.2021
Checked By	stevm	26.06.2021	ttxdk	01.07.2021	wtxmkc	30.06.2021
Approved By	sterr1	01.07.2021	tbrkr	01.07.2021	wtxblm	30.06.2021



# COMBINED BILL OF MATERIAL

Printed On: 22.09.2021

Printed By:

**CBOM No:** 12120520101    **CBOM Var:** 00    **Revno:** 0    **Rev Date:** 01.07.2021  
**Description:** OUTLET PIPE TO DISCHARGE VALVE    **Total weight:** 9015.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ	Cat	Zone	Var/Matl. Description	ENGG SIZE/GRP	Fab Wt	Route			Spare Code	Unit
0	12120520101 00			9015.0						
1(1)	OUTLET PIPE TO DISCHARGE VALVE			Y						
MF	CD		N			0306				
1		AA1011819198	AA10119	5789.2	4000.0X1706.0	1	1	2252.0	0.0	2252.0
1(1)	CYLINDER		SEE DETAIL IN ASSY. DRG.	Y	PL 40					Segments to be made in 3 parts
RM	DR		ST-FE410 WB-PLATE	10808.0X1706.0		0072-0301-0306				KG
2		W96321301051		2532.0	3850.0X1600.0	1	1	5082.0	0.0	5082.0
1(1)	FLANGE IN 8 PARTS		SEE DETAIL IN ASSY. DRG.	Y	4200X1700X100					Segments to be made in 8 parts
RM	DR		PLATE 100TK ASTM A 537 CL-2	4080.0X4080.0		0072-0301-0306				KG
3		W96321501050		78.0	487.0X487.0	1	1	196.0	0.0	196.0
1(1)	BOSS FOR BYPASS VALVE		DIA 495	Y	100 TK X 2500 X 6000					
RM	DR		PLATE IS2062 E300 (BR) -100TK			0072-0301-0306				KG
4	42160419701 00	AA1070225185	AA10725	0.75	60.0	1	2	0.9	0.0	1.8
2(2)	BOSS 3/8" BSP			Y	RND 50					
MF	DR					0072-0315-0236-0306				KG
5	32302949140 05	AA1011819210	AA10119	7.8	190.0X150.0	1	8	11.8	0.0	94.4
8(8)	LIFTING LUG			Y	PL 50					
MF	DR					0072-0301-0317-0306				KG
6		AA1011819198	AA10119	15.2	275.0X240.0	1	18	22.0	0.0	396.0
18(18)	RIB		SEE DETAIL IN ASSY. DRG.	Y	PL 40					
RM	DR		ST-FE410 WB-PLATE	240.0X275.0		0072-0301-0306				KG
7		AA1071840070	AA10740	14.2	25.0X6000.0	1	1	15.0	0.0	15.0
1(1)	GRATING BAR		SEE DETAILS IN ASSY. DRG.	Y	PL 10					
RM	DR		AUSTENITIC STEEL PLATES,SHEETS	1600.0X25.0		0072-0301-0306				KG
8		AA1012508129	AA10108	102.0	15000.0	1	1	102.0	0.0	102.0
1(1)	TRANSPORT STAYS		ISM75X75X6X15M	Y	75X75X6					
RM	DR		ST-A(FE410 WA)ANGLE			0072-0301-0306				KG
9		AA1011819112	AA10119	7.54	400.0X300.0	1	10	16.0	0.0	160.0
10(10)	SUPPORT PLATE		SEE DETAIL IN ASSY.	Y	PL 16					
RM	DR		ST-FE410 WB-PLATE	300.0X200.0		0072-0301-0306				KG

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stevm	25.06.2021	ttxdee	01.07.2021	wtxmkc	30.06.2021
Checked By	stevm	26.06.2021	ttxdk	01.07.2021	wtxmkc	30.06.2021
Approved By	sterr1	01.07.2021	tbrmrkr	01.07.2021	wtxblm	30.06.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 12120520101 CBOM Var: 00 Revno: 0  
Description: OUTLET PIPE TO DISCHARGE VALVE

Rev Date: 01.07.2021  
Total weight: 9015.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description				Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ	Cat	Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	421604	19702	00	AA1010208241	AA10108	2.0	80.0	1	16	1.0	13.26	15.26
2(2)	BOSS 1-1/2" BSP					Y	RND 80					
MF	DR						0072-0236-0306					KG
11				AA1011819260	AA10119	82.0	500.0X500.0	1	1	165.0	0.0	165.0
1(1)	BOSS FOR DRAIN VALVE 250NB				DIA 500	Y	PL 80					
RM	DR			ST-FE410	WB-PLATE		0072-0301-0236-0306					KG

CBOM - 12120520101

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stevm	25.06.2021	ttxdee	01.07.2021	wtxmkc	30.06.2021
Checked By	stevm	26.06.2021	ttxdk	01.07.2021	wtxmkc	30.06.2021
Approved By	sterr1	01.07.2021	tbnrkr	01.07.2021	wtxblm	30.06.2021



## COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

**CBOM No:** 12120521501 **CBOM Var:** 00 **Revno:** 0 **Rev Date:** 01.07.2021  
**Description:** OUTLET PIPE TO DISCHARGE VALVE **Total weight:** 11390.0

CBOM - 12120521501 00

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stevm	21.06.2021	ttxdee	26.06.2021	wtxmkc	26.06.2021
Checked By	stevm	26.06.2021	ttxdee	26.06.2021	wtxmkc	26.06.2021
Approved By	sterr1	01.07.2021	tbrmr	26.06.2021	wtxblm	26.06.2021



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Printed On: 22.09.2021

Printed By:

**CBOM No:** 12120521501    **CBOM Var:** 00    **Revno:** 0    **Rev Date:** 01.07.2021  
**Description:** OUTLET PIPE TO DISCHARGE VALVE    **Total weight:** 11390.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	12120521501 00			11390.0						
1(1)	OUTLET PIPE TO DISCHARGE VALVE			Y						
MF			N		0306-0313-0236					
1		AA1011819198	AA10119	8164.4	12122.7X2406.0	1	1	9625.0	0.0	9625.0
1(1)	CYLINDER		SEE DETAIL IN ASSY. DRG.	Y	PL 40				Made in 3 segments	
RM DR	ST-FE410 WB-PLATE		10808.0X2406.0		0072-0301-0306-0301-0306					KG
2		W96321301051		2532.0	3228.0X1581.0	1	1	4210.0	0.0	4210.0
1(1)	FLANGE IN 8 PARTS		SEE DETAIL IN ASSY. DRG.	Y	4200X1700X100				Made in 8 segments	
RM DR	PLATE 100TK ASTM A 537 CL-2		4080.0X4080.0		0072-0301-0306					KG
3		W96321501050		78.0	495.0X495.0	1	1	202.0	0.0	202.0
1(1)	BOSS FOR BYPASS VALVE		DIA 495	Y	100 TK X 2500 X 6000					
RM DR	PLATE IS2062 E300 (BR) -100TK				0072-0301-0236-0306					KG
4	42160419701 00	AA1070225185	AA10725	0.75	60.0	1	2	0.9	0.0	1.8
2(2)	BOSS 3/8" BSP			Y	RND 50					
MF DR					0072-0315-0236-0306					KG
5	32302949140 05	AA1011819210	AA10119	7.8	190.0X150.0	1	8	11.8	0.0	94.4
8(8)	LIFTING LUG			Y	PL 50					
MF DR					0072-0301-0317-0306					KG
6		AA1011819198	AA10119	15.2	275.0X240.0	1	18	22.0	0.0	396.0
18(18)	RIB		SEE DETAIL IN ASSY. DRG.	Y	PL 40					
RM DR	ST-FE410 WB-PLATE		240.0X275.0		0072-0301-0306					KG
7		AA1071840070	AA10740	14.2	6000.0X25.0	1	1	15.0	0.0	15.0
1(1)	GRATING BAR		SEE DETAILS IN ASSY. DRG.	Y	PL 10					
RM DR	AUSTENITIC STEEL PLATES,SHEETS		1600.0X25.0		0072-0301-0306					KG
8		AA1012508129	AA10108	102.0	15000.0	1	1	105.0	0.0	105.0
1(1)	TRANSPORT STAYS		LENGTH 15000	Y	75X75X6					
RM DR	ST-A(FE410 WA)ANGLE				0072-0301-0306					KG
9		AA1011819112	AA10119	7.54	300.0X200.0	1	10	8.0	0.0	80.0
10(10)	SUPPORT PLATE		SEE DETAIL IN ASSY.	Y	PL 16					
RM DR	ST-FE410 WB-PLATE		300.0X200.0		0072-0301-0306					KG

**ENGG**

**TTX**

**WTX**

**Initial**

**Date**

**Initial**

**Date**

**Initial**

**Date**

Worked By

stevm

21.06.2021

ttxdee

26.06.2021

wtxmkc

26.06.2021

Checked By

stevm

26.06.2021

ttxdee

26.06.2021

wtxmkc

26.06.2021

Approved By

sterr1

01.07.2021

tbrmrkr

26.06.2021

wtxblm

26.06.2021



# COMBINED BILL OF MATERIAL

Printed On:22.09.2021

Printed By:

CBOM No: 12120521501    CBOM Var: 00    Revno: 0    Rev Date: 01.07.2021  
Description: OUTLET PIPE TO DISCHARGE VALVE    Total weight: 11390.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty( Total )	Description				Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ	Cat	Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	421604	19702	00	AA1010208241	AA10108	2.0	80.0	1	16	1.0	13.26	15.26
2(2)	BOSS 1-1/2" BSP					Y	RND 80					
MF	DR						0072-0236-0306					KG
11				AA1011819260	AA10119	82.0	500.0X500.0	1	1	165.0	0.0	165.0
1(1)	BOSS FOR DRAIN VALVE 250NB				DIA 500	Y	PL 80					
RM	DR			ST-FE410	WB-PLATE		0072-0301-0236-0306					KG

CBOM - 12120521501

	ENGG		TTX		WTX	
	Initial	Date	Initial	Date	Initial	Date
Worked By	stevm	21.06.2021	ttxdee	26.06.2021	wtxmkc	26.06.2021
Checked By	stevm	26.06.2021	ttxdee	26.06.2021	wtxmkc	26.06.2021
Approved By	sterr1	01.07.2021	tbnrkr	26.06.2021	wtxblm	26.06.2021



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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

For Indian Bidders (Version December-2020, Rev: 05)

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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, 4<sup>th</sup> Floor, Main Admin. Building, BHEL-HEEP, Haridwar.

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



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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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](http://www.bhel.com).
- g) Being PMD vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list.
- h) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 2 Crore or more.
- i) In case of open tender, technically qualified unregistered bidders may apply online for registration through <http://www.bhel.com/index.php/vender>.
- j) BHEL reserves the right to award tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders). BHEL can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.
- k) In case of e-Tendering (Online bidding through e-portal), offline bid submitted in hard copy or in any other form by the vendor / supplier will not be accepted and will be rejected out rightly. Only e-portal bid will be accepted.

#### 4. TENDER OPENING.

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

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

#### 5. SPECIFICATION, DRAWINGS & STANDARD.

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

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



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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

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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 the company.

### 6. PRICE SCHEDULE.

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

- g) Bidders can dispatch goods through any Indian Bank Association approved transporters having their branch at HARIDWAR / destination. If material is dispatched through other than Indian Bank Association approved transporter, material to be delivered on door delivery BHEL Stores basis.
- h) In case of dispatch of material through any other unapproved transporter, payment shall be made only after receipt of material and any additional charges payable to the transporter shall be to the bidder's account.
- i) Any demurrage / godown rent payable to the transporter / or to godown's owner due to any delay attributed by the supplier shall be recovered from supplier's account.
- j) Currency of Evaluation shall be INR.

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

### 7. REVERSE AUCTION.

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

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://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%.

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



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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

For Indian Bidders (Version December-2020, Rev: 05)

### 9. PENALTY FOR LATE DELIVERY.

#### a) Where items of Purchase Order are independently usable.

Penalty 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.

Penalty 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 penalty purpose.

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

### 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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HEEP-HARIDWAR, UTTARAKHAND (249403)

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For Indian Bidders (Version December-2020, Rev: 05)

**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.	<b>No Loading</b>
Against Delivery at BHEL-Stores Haridwar.	<b>45</b>
Against documents through bank (CAD):	<b>45</b>
Letter of Credit (LC)	<b>120</b>
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 evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

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



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- 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](http://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.
- c) Unsolicited discounts / revised offers / bids given after Part-1 bid opening shall not be accepted. No change in price will be



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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 Penalty 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.

### 19. FORCE MAJEURE CLAUSE.

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

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

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



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- i) Change in law / government. Regulation making the performance impossible.

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:

- Prevent Force Majeure Events affecting the performance of the party's obligations under this Agreement.
- mitigate the effect of any Force Majeure Event and
- 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. BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.

### 21. SETTLEMENT OF DISPUTES / ARBITRATION.

In all cases of dispute, the matter shall be referred for ARBITRATION by sole arbitrator to be appointed by the Unit Head of Bharat Heavy Electricals Ltd., at HARIDWAR. The award of the Arbitrator shall be final and binding on both the parties. The place of Arbitration shall be Haridwar.

**JURISDICTION:** The courts of Haridwar, India, shall have exclusive jurisdiction.

### 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.

- "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 (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



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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.

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."



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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.
- 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’



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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, 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.*



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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 supervision 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 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 , overhaul, renovation and retrofitting , trial



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

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

For Indian Bidders (Version December-2020, Rev: 05)

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."

## **INTEGRITY PACT**

### **Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi – 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

### **and**

\_\_\_\_\_, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

### **Preamble**

The Principal intends to award, under laid-down organizational procedures, contract/s for

\_\_\_\_\_  
\_\_\_\_\_. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

## **Section 1 – Commitments of the Principal**

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
  - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

## **Section 2 – Commitments of the Bidder(s)/ Contractor(s)**

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
  - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. 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.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3 – Disqualification from tender process and exclusion from future contracts**

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors". framed by the Principal.

### **Section 4 – Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

### **Section 5 – Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

## **Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors**

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

## **Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

## **Section 8 –Independent External Monitor(s)**

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word 'Monitor' would include both singular and plural.

### **Section 9 – Pact Duration**

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

### **Section 10 – Other Provisions**

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

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For & On behalf of the Principal

For & On behalf of the Bidder/ Contractor

(Office Seal)

(Office Seal)

Place-----

Date-----

Witness: \_\_\_\_\_

Witness: \_\_\_\_\_

(Name & Address) \_\_\_\_\_

(Name & Address) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**List of APPROVED MATERIAL SUPPLIERS:**

Item Description	Material Specification	Approved Suppliers
MS & BQ Plates	AA10119/AA10401/ASTM A516/ASTM A515/E 300, IS:2062	<ol style="list-style-type: none"> <li>1. SHAH BROTHERS ISPAT PVT. LTD.</li> <li>2. ARCELORMITTAL NIPPON STEEL</li> <li>3. STEEL AUTHORITY OF INDIA LTD</li> <li>4. JINDAL STEEL &amp; POWER LTD.</li> <li>5. WELSPUN CORP LTD</li> <li>6. SUNLION PIPING ENGINEERING CO.</li> <li>7. SALZGITTER MANNESMANN INTERNAT</li> <li>8. DILLINGER INTERNATIONAL</li> <li>9. STEEL FORCE ASIA NV-BEIGIUM</li> <li>10. NLMK PLATES SALES SA</li> <li>11. BURWILL RESOURCES LTD.</li> <li>12. CUMIC STEEL LIMITED</li> <li>13. DAEWOO INTERNATIONAL CORPORATI</li> <li>14. SIJ ACRONI D.O.O.</li> </ol>
HT Plates	AA10122	<ol style="list-style-type: none"> <li>1. ARCELORMITTAL NIPPON STEEL</li> <li>2. STEEL AUTHORITY OF INDIA LTD</li> <li>3. JINDAL STEEL &amp; POWER LTD.</li> <li>4. SUNLION PIPING ENGINEERING CO.</li> <li>5. TATA STEEL UK LIMITED</li> <li>6. SALZGITTER MANNESMANN INTERNAT</li> <li>7. HANWA CO. LTD.</li> <li>8. DILLINGER INTERNATIONAL</li> <li>9. INDUSTEEL BELGIUM</li> <li>10. NLMK PLATES SALES SA</li> <li>11. BURWILL RESOURCES LTD.</li> <li>12. CUMIC STEEL LIMITED</li> <li>13. DAEWOO INTERNATIONAL CORPORATI</li> <li>14. SIJ ACRONI D.O.O.</li> </ol>
Alloy Steel Plates	ASTM A537, Class 2	<ol style="list-style-type: none"> <li>1. ARCELORMITTAL NIPPON STEEL</li> <li>2. SUNLION PIPING ENGINEERING CO.</li> </ol>

		<ol style="list-style-type: none"> <li>3. SALZGITTER MANNESMANN INTERNAT</li> <li>4. DILLINGER INTERNATIONAL</li> <li>5. INDUSTEEL BELGIUM</li> <li>6. BURWILL RESOURCES LTD.</li> <li>7. CUMIC STEEL LIMITED</li> <li>8. DAEWOO INTERNATIONAL CORPORATI</li> <li>9. SIJ ACRONI D.O.O.</li> </ol>
SS Plates	AA10739/AA10740/ASTM A240, Grade 415	<ol style="list-style-type: none"> <li>1. GOLDEN METAL PVT. LTD.</li> <li>2. SANDOZ METALS (INDIA)</li> <li>3. JINDAL STAINLESS LIMITED</li> <li>4. JINDAL STAINLESS (HISAR) LTD.</li> <li>5. STEEL AUTHORITY OF INDIA LTD</li> <li>6. OUTOKUMPU INDIA PRIVATE LIMITE</li> <li>7. OUTOKUMPU STAINLESS AB,</li> <li>8. APERAM STAINLESS EUROPE</li> <li>9. INDUSTEEL BELGIUM</li> <li>10. VOESTALPINE BOHLER BLECHE GMBH</li> <li>11. DK CORPORATION</li> <li>12. DAEWOO INTERNATIONAL CORPORATI</li> <li>13. SIJ ACRONI D.O.O.</li> </ol>
Carbon Steel Seamless pipe & tubes	AA10446 & AA10455	<ol style="list-style-type: none"> <li>1. M J PATEL (INDIA) LTD.</li> <li>2. SAINEST TUBES PVT LTD.</li> <li>3. ANAND SEAMLESS TUBES PVT. LTD</li> <li>4. HEAVY METAL &amp; TUBES (INDIA) PV</li> <li>5. ISMT LIMITED</li> <li>6. MOKSHI INDUSTRIES PVT. LTD.</li> <li>7. BHARAT HEAVY ELECTRICALS LTD.</li> <li>8. MAHARASHTRA SEAMLESS LIMITED</li> <li>9. INDUSTRIAL METAL CORPORATION</li> <li>10. RATNADEEP METAL &amp; TUBES LTD.</li> <li>11. JIANGSU CHENGDE STEEL TUBE SHA</li> <li>12. SHANDONG LIAOCHENG ZGL IMPORT</li> <li>13. YANGZHOU CHENGDE STEEL PIPE CO</li> </ol>

		<ul style="list-style-type: none"> <li>14. T P S TECHNITUBE</li> <li>15. ARCELORMITTAL TUBULAR PRODUCTS</li> </ul>
Carbon Steel Rounds bars	AA10108/AA10109/AA10208/AA10218	<ul style="list-style-type: none"> <li>1. SANDOZ METALS (INDIA)</li> <li>2. ARCVAC FORGECAST PRIVATE LTD</li> <li>3. MAHAWAR IRON STORES PVT LTD</li> <li>4. SKYWAY STEEL INDUSTRIES</li> <li>5. STAR WIRE (INDIA) LTD.</li> <li>6. BHARAT HEAVY ELECTRICALS LTD.</li> <li>7. SAURABH METALS PVT. LTD.</li> <li>8. LAXCON STEELS LTD</li> <li>9. WELSPUN SPECIALTY SOLUTIONS</li> <li>10. ISMT LIMITED</li> <li>11. SAARLOHA ADVANCED MATERIALS</li> <li>12. RASHTRIYA ISPAT NIGAM LIMITED</li> <li>13. STEEL AUTHORITY OF INDIA LTD</li> <li>14. SUN FLAG IRON &amp; STEEL CO. LTD.</li> <li>15. GORADIA SPECIAL STEEL LTD</li> </ul>
Bright Bar	AA10112	<ul style="list-style-type: none"> <li>1. BRIGHT BAR MFG CO</li> <li>2. JONEJA BRIGHT STEELS PVT LTD</li> <li>3. GOPALSONS STEELS PVT.LTD.</li> <li>4. STAR WIRE (INDIA) LTD.</li> <li>5. ISMT LIMITED</li> <li>6. SUN FLAG IRON &amp; STEEL CO. LTD.</li> <li>7. D.H.EXPORTS PVT LTD</li> </ul>
Hot Rolled Sheet	AA10111/AA10113	<ul style="list-style-type: none"> <li>1. TATA STEEL LIMITED</li> <li>2. STEEL AUTHORITY OF INDIA LTD</li> <li>3. TATA STEEL BSL LIMITED</li> <li>4. JSW STEEL LIMITED</li> </ul>
Cold Rolled Sheet	AA10114/AA10115	<ul style="list-style-type: none"> <li>1. TATA STEEL LIMITED</li> <li>2. STEEL AUTHORITY OF INDIA LTD</li> <li>3. TATA STEEL BSL LIMITED</li> </ul>

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|  |  | <ol style="list-style-type: none"><li>4. THYSSENKRUPP<br/>ELECTRICAL STEEL</li><li>5. JSW STEEL LIMITED</li></ol> |
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