

	ANNEXURE-I	
	BID NO:	DT:
SL NO	PRE QUALIFICATION REQUIREMENT	VENDOR'S COMMENTS
1	Vendor must have experience in manufacturing of Iron and Steel castings. The bidder shall submit previous Purchase Order supplied to Central/State Govt./PSU company/Private organization during the last five years from the date of tender. The proof of such supply (Executed Purchase Order Copy along with TDS (Tax Deducted at Source) certificate issued by the organization or Form 26 AS or Bank statement for transaction of payment for completion of supply or Performance certificate duly signed) shall be submitted with the offer.	
	ANNEXURE -II	
SL NO	Documents requirements	VENDOR'S COMMENTS
1	Signed copy of technical specification with organization seal/stamp	
2	Executed Purchase Order Copy along with TDS (Tax Deducted at Source) certificate issued by the organization or Form 26 AS or Bank statement for transaction of payment for completion of supply or Performance certificate duly signed to meet the requirements in Annexure ISI No 1. Kindly avoid sending multiple purchase orders.	
3	Filled in & signed copy of Annexure I - PQR details with organization seal /stamp	
4	Filled in & signed copy of Annexure B & C (BHEL Technical Cum Commercial Terms And Conditions)for Indigenous Vendors)with organization seal /stamp	

1. BID SECURITY/ Earnest Money Deposit (EM O)

- A. Bid Security [also known as Earnest Money Deposit (EMD)] shall be submitted by the bidders along with their bids (except Micro and Small Enterprises (MSEs) or Startups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT)).
- B. Rate of this EMD is RS. 6 Lakh.
- C. Mode of Deposit:
 - i. Electronic Fund Transfer credited in BHEL account (before tender opening).
 - ii. Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer).
 - iii. Fixed Deposit Receipt (FDR).
 - iv. Bank Guarantee from any of the Scheduled Banks.
 - v. Insurance Surety Bonds.
- D. Forfeiture of EMD:
 - i. A bidder's EMD will be forfeited if the bidder withdraws or amends its/ his tender or impairs or derogates from the tender in any respect within the period of validity of the tender or if the successful bidder fails to furnish the required performance security within the specified period mentioned in the Tender.
 - ii. EMD by the tenderer to be withheld in case any action on the bidder is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines.
- E. RETURN:
 - i. Bid securities of the unsuccessful bidders shall be returned to them at the earliest after expiry of the final bid validity period and latest by the 30th day after the award of the contract. However, in case of two packet or two stage bidding, Bid securities of unsuccessful bidders during first stage i.e. technical evaluation etc. shall be returned within 30 days of declaration of result of first stage i.e. technical evaluation etc.
 - ii. Bid security shall be refunded to the successful bidder on conclusion of the order/ receipt of a performance security (if called in the tender).
- F. EMD shall not carry any Interest.

2. PERFORMANCE SECURITY

- A. performance security is to be obtained from the successful bidder awarded the contract.
- B. The total amount of Performance Security shall be five percent (5%) of the contract value.
- C. Mode of Deposit:
 - i. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.

- ii. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- iii. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).
- iv. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).
- v. Insurance Surety Bond

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

D. Performance Security is to be furnished by a specified date (generally 14(fourteen) days after notification of the award) and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations.

E. Forfeiture of Performance Security:

- i. The performance security will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier.

F. Return:

- i. PS shall be refunded to the contractor without interest, after he duly performs and completes the contract in all respects but not later than 60(sixty) days of completion of all such obligations including the warranty under the contract.

G. The Performance Security shall not carry any interest.

PAYMENT VIDE E-COLLECT

This explains how to make Payments to BHEL-Tiruchirapalli and through SBI E-collect. Vendors (EMD and PS Payments payable by others) can utilize this facility. Payments can be made using Internet Banking. Debit Cards/ Credit Cards etc. SBI Charges a minimum amount (Service Charge) for every transaction. This may vary according to the MODE selected.

STEP BY STEP PROCEDURE

Login to <https://www.onlinesbi.com>

Select State Bank Collect available on the top (pre login page)

Accept the terms and conditions and click "PROCEED".

Select State "TAMILNADU" and Institution type "INDUSTRY".

Select "BHEL" TRICHY under "INDUSTRY".

In the next page, select APPROPRIATE category, fill the details correctly & click "SUBMIT".

If all details entered are correctly populated, click "CONFIRM" to proceed.

Make payment as per your convenience. (options available are payment of fees through SBI Net Banking, State Bank ATM cum Debit Cards / Other Bank Debit / Credit Cards and through SBI Branches). SAVE & Keep the copy of receipt for future reference.

HOW TO TAKE RECEIPT FOR A PAYMENT MADE, EVEN ON A LATER DATE:
(PLEASE CHECK THE STATUS BEFORE MAKING PAYMENT SECOND TIME)

Login to www.onlinesbi.com

Select State Bank Collect available on the top (pre login page)

Accept the terms and conditions and click "PROCEED".

Select "PAYMENT HISTORY" option available on the left side of screen.

Using two options as mentioned below, you can get the receipt: Type the same Date of Birth, Mobile Number which you have entered at the time of making payment through SB collect. Select the date range and submit. If you know the payment reference number, then enter the Reference number (DU..) along with anyone information (Date of Birth / Mobile number, which you have entered at the time of making payment). Select the date range and submit. In the next page, take print out of receipt.

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 _____

_____ (hereinafter referred to as "Contract"). 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 panel of Independent External Monitor(s) (IEMs), 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. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during 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 Indian Penal Code (IPC) and Prevention of Corruption 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 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. 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.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

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, terminate the contract, if already awarded, exclude from future business dealings and/ 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 (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) 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 or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors / Subcontractors

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 panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are 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 IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/ records/ information having National Security implications and those documents which have been classified as Secret/ Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs 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 IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption 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 IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact 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 Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/ expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

**NEERAJ
XALXO**

Digitally signed by
NEERAJ XALXO
Date: 2024.08.10
15:50:54 +05'30'

For & On behalf of the Principal
(Office Seal)

Place _____

Date _____

Witness: **SAGUN LAL
LABHO SINGH**
SIDAR
(Name & Address) _____

Digitally signed by
SAGUN LAL LABHO
SINGH SIDAR
Date: 2024.08.10
16:36:17 +05'30'

For & On behalf of the Bidder/ Contractor
(Office Seal)

Witness: _____
(Name & Address) _____

Clause on IP in the tender

Integrity Pact (IP)

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SI	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

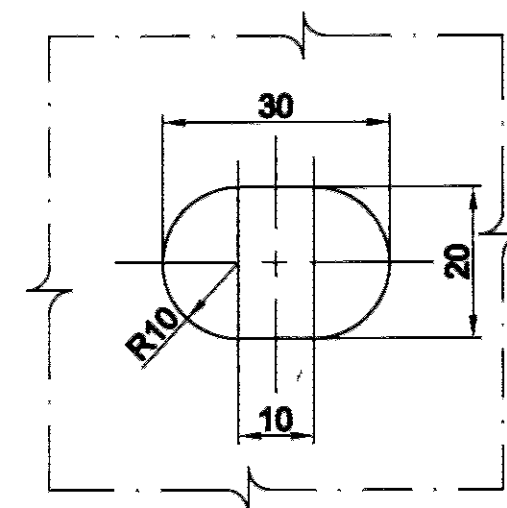
(1) NEERAJ
Name: XALXO
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____
Email: _____
Fax: _____

Digitally signed by
NEERAJ XALXO
Date: 2024.08.10 15:54:08
+05'30'

(2)
Name: _____
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____
Email: _____
Fax: _____



Technical drawing of a rectangular plate. The plate has a total width of 130 mm and a total height of 250 mm. There are four circular holes, each with a diameter of 10 mm. The holes are arranged in two rows of two. The top row of holes is 25 mm from the top edge. The bottom row of holes is 25 mm from the bottom edge. The horizontal distance between the center of the left hole and the center of the right hole in the top row is 60 mm. The horizontal distance between the center of the left hole and the center of the right hole in the bottom row is 40 mm. The center-to-center distance between the two rows of holes is 130 mm. A dashed line runs vertically through the center of the plate. A diagonal line passes through the top-right hole. There are four small rectangular features, possibly slots or notches, located on the right edge of the plate. The top-right feature is 25 mm from the top edge. The other three features are spaced evenly along the right edge.



ENLARGED DETAILS OF CORED HOLES (TYPICAL)

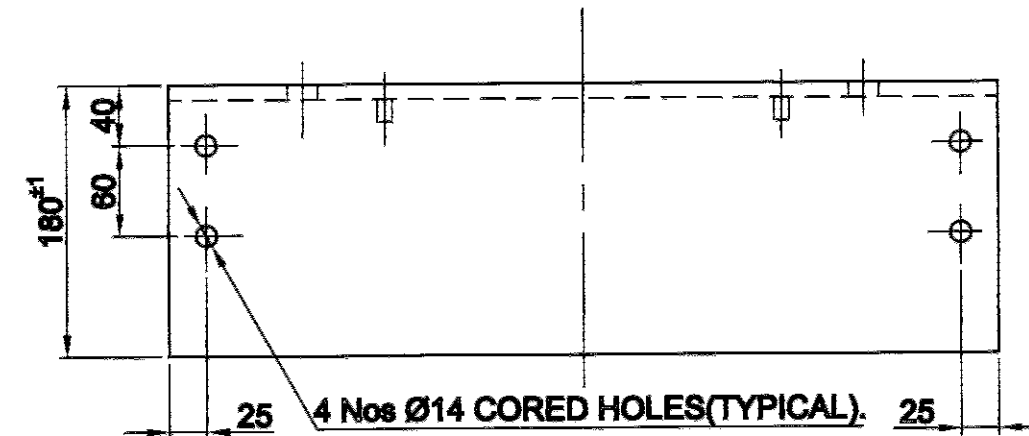
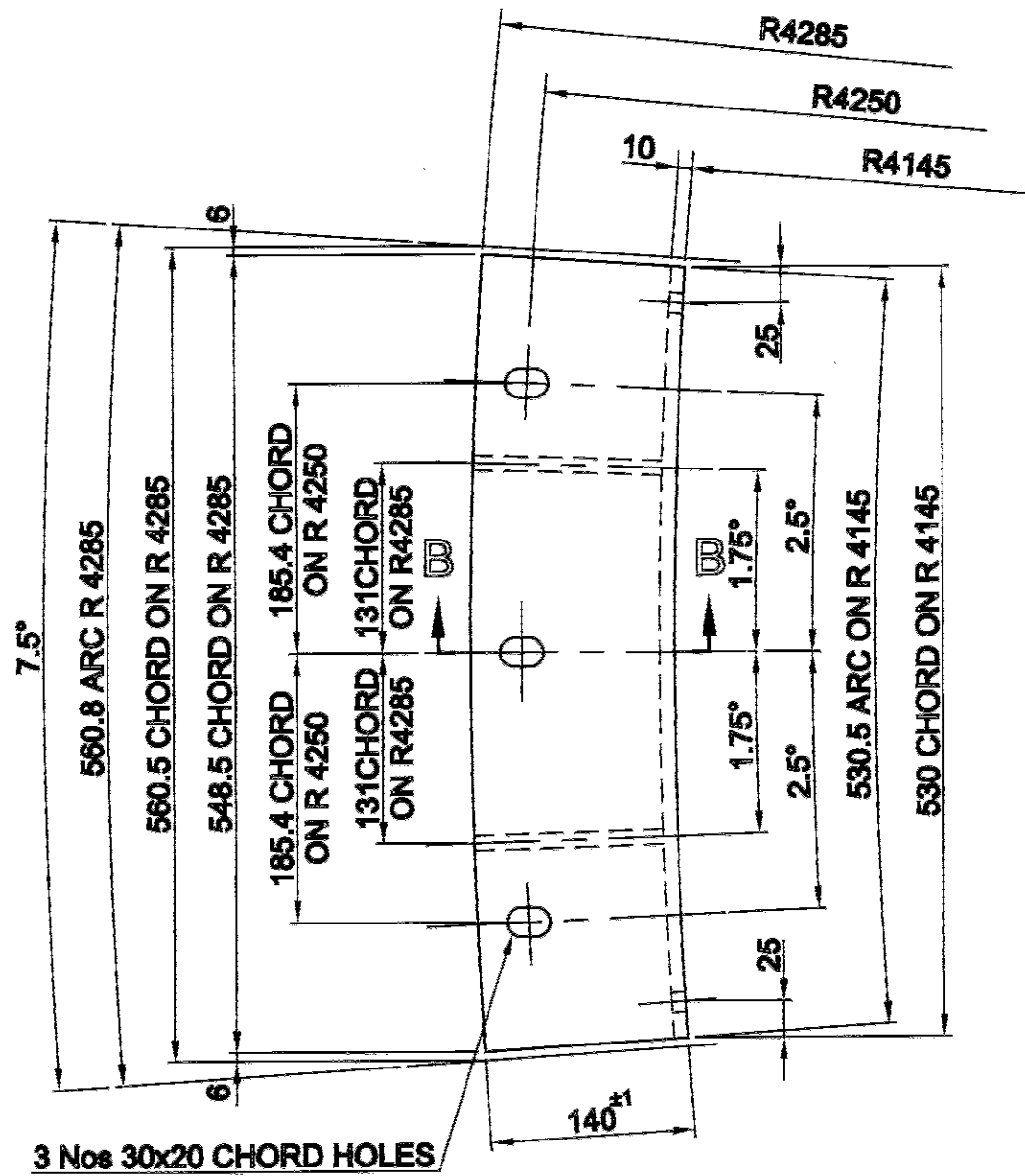
MATERIAL: HEAT RESISTANT CAST IRON Gr I TYPE E OF IS:3355
CHEMICAL COMPOSITION C=3.5% MIN, S=0.15%MAX,P=0.4MAX.
Cr=1.21-1.40% CARBON EQUIVALENT 3.8 TO 4.4

NOTE: PERMISSIBLE DEVIATIONS ON UNTOLERANCED DIMENSIONS SHOULD BE AS PER IS:5519 CLASS 2.

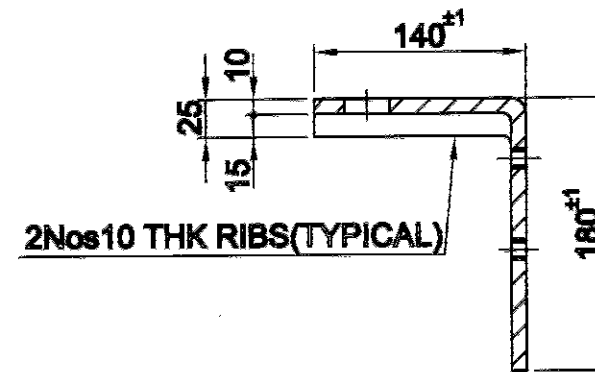
VIEW - A



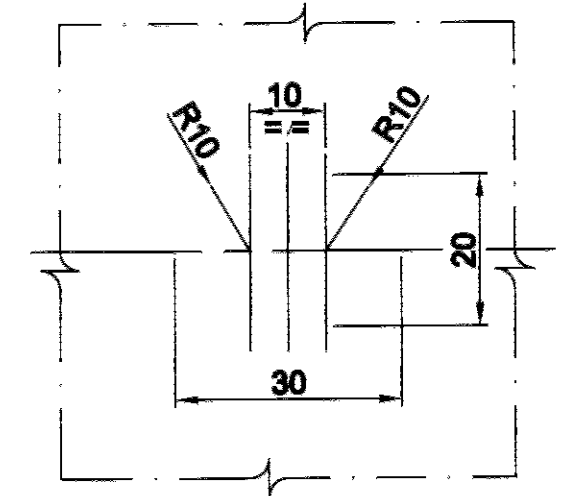
ALL DIMENSIONS ARE IN MILLIMETERS



VIEW-A



SECTION-BB




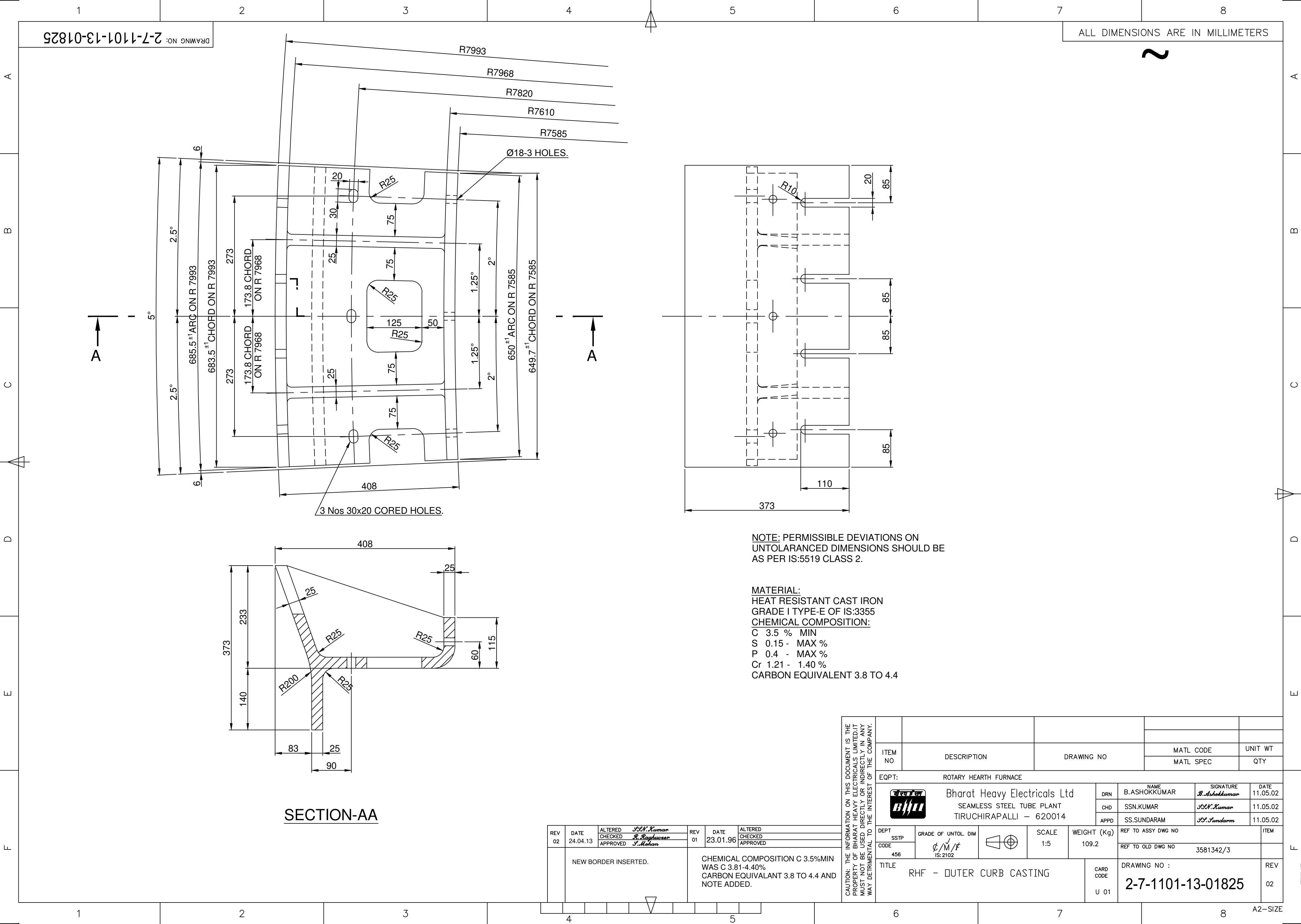
ENLARGED DETAILS OF CORED HOLES (TYPICAL)

ALL CORNERS TO BE 3 mm. RADIUS UNLESS STATED OTHERWISE.

MATERIAL: HEAT RESISTANT CAST IRON Gr I TYPE E OF IS:3355
CHEMICAL COMPOSITION C=3.5% MIN, S=0.15%MAX,P=0.4MAX.
Cr=1.21-1.40% CARBON EQUIVALENT 3.8 TO 4.4

NOTE: PERMISSIBLE DEVIATIONS ON UNTOLERANCED DIMENSIONS SHOULD BE AS PER IS:5519 CLASS 2.

	REV 02	DATE	ALTERED : CHECKED : APPROVED :		UNIT WT
	ZONE				QTY
	EQPT:				ROTARY HEARTH FURNACE
	 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014				NAME B.ASHOKKUMAR SIGNATURE <i>[Signature]</i> DATE 04.06.02
					DRN S.S.N.KUMAR CHD P. Shanmugasundaram APPD P. Shanmugasundaram
					90502 30082002
	REV 02	DATE	ALTERED : CHECKED : APPROVED :		ITEM NO
	ZONE				
	CHEMICAL COMPOSITION C 3.5% MIN, WAS C 3.81-4.40%. CORBON EQUIVALENT 3.8 TO 4.4 AND NOTE ADDED.				
	DEPT				GRADE OF UNTOOL DIM
	CODE				C/M/F
	TITLE				SCALE
	DIPPER PLATE CASTING (INNER MOVABLE)				1:5 (1:1) WEIGHT(kg) 11.22
	CARD CODE U 01				REF TO ASSY DWG NO
					REF TO OLD DWG NO
					368134 3/3(TYPE VI)
	DRAWING NO : 3-7-1101-13-02603				REV 01



DRAWING NO: 2-7-1101-13-01825

ALL DIMENSIONS ARE IN MILLIMETERS

2



NOTE: PERMISSIBLE DEVIATIONS ON
UNTOLARANCED DIMENSIONS SHOULD BE
AS PER IS:5519 CLASS 2.

MATERIAL:
HEAT RESISTANT CAST IRON
GRADE I TYPE-E OF IS:3355
CHEMICAL COMPOSITION:
C 3.5 % MIN
S 0.15 - MAX %
P 0.4 - MAX %
Cr 1.21 - 1.40 %
CARBON EQUIVALENT 3.8 TO 4.4

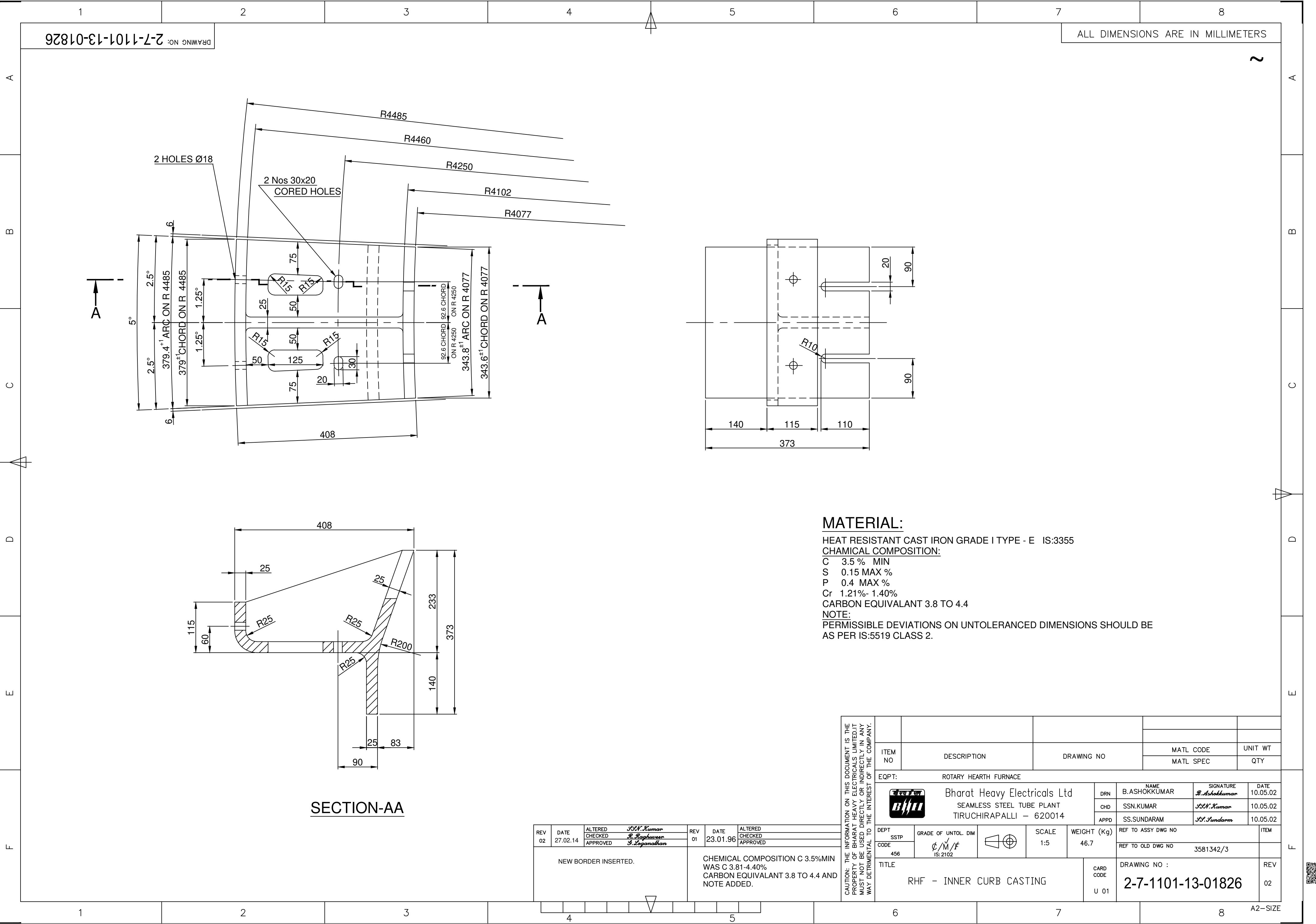
SECTION-AA

REV	DATE	ALTERED	BY	REV	DATE	ALTERED	BY
02	24.04.13	CHECKED	S.H.Kumar	01	23.01.96	CHECKED	S.H.Kumar
		APPROVED	S. Mohan			APPROVED	S. Mohan
NEW BORDER INSERTED.				CHEMICAL COMPOSITION C 3.5%MIN WAS C 3.81-4.40% CARBON EQUIVALANT 3.8 TO 4.4 AND NOTE ADDED.			


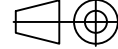
CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE				UNIT WT		
			MATL SPEC				QTY		
EQPT:		ROTARY HEARTH FURNACE							
		Bharat Heavy Electricals Ltd		DRN	NAME B.ASHOKKUMAR		SIGNATURE <i>B.Ashokkumar</i>	DATE 11.05.02	
		SEAMLESS STEEL TUBE PLANT		CHD	SSN.KUMAR		<i>SSN.Kumar</i>		11.05.02
		TIRUCHIRAPALLI – 620014		APPD	SS.SUNDARAM		<i>SS.Sundaram</i>		11.05.02
DEPT	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO				ITEM
SSTP	$\phi / M / \#$ IS:2102		1:5	109.2	REF TO OLD DWG NO				
CODE					3581342/3				
456									
TITLE				CARD CODE	DRAWING NO :				REV
RHF – OUTER CURB CASTING					2-7-1101-13-01825				02
				U 01					



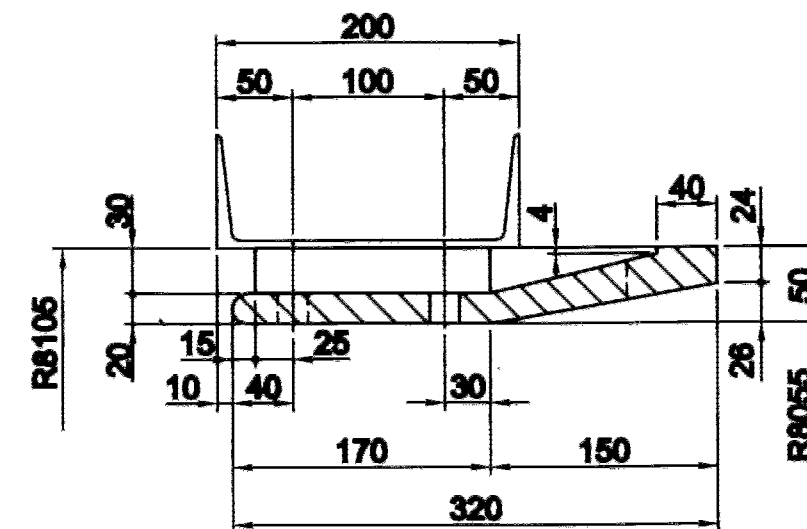
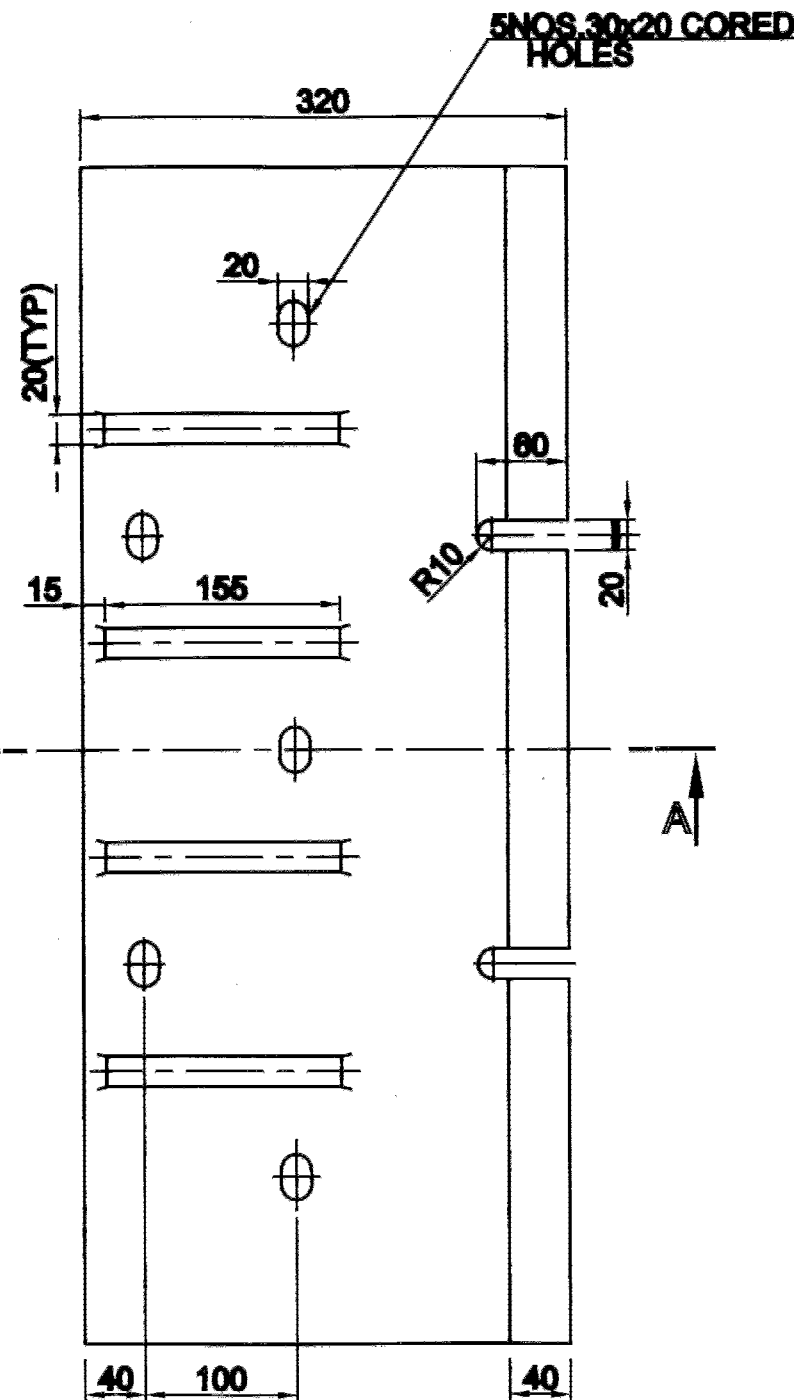
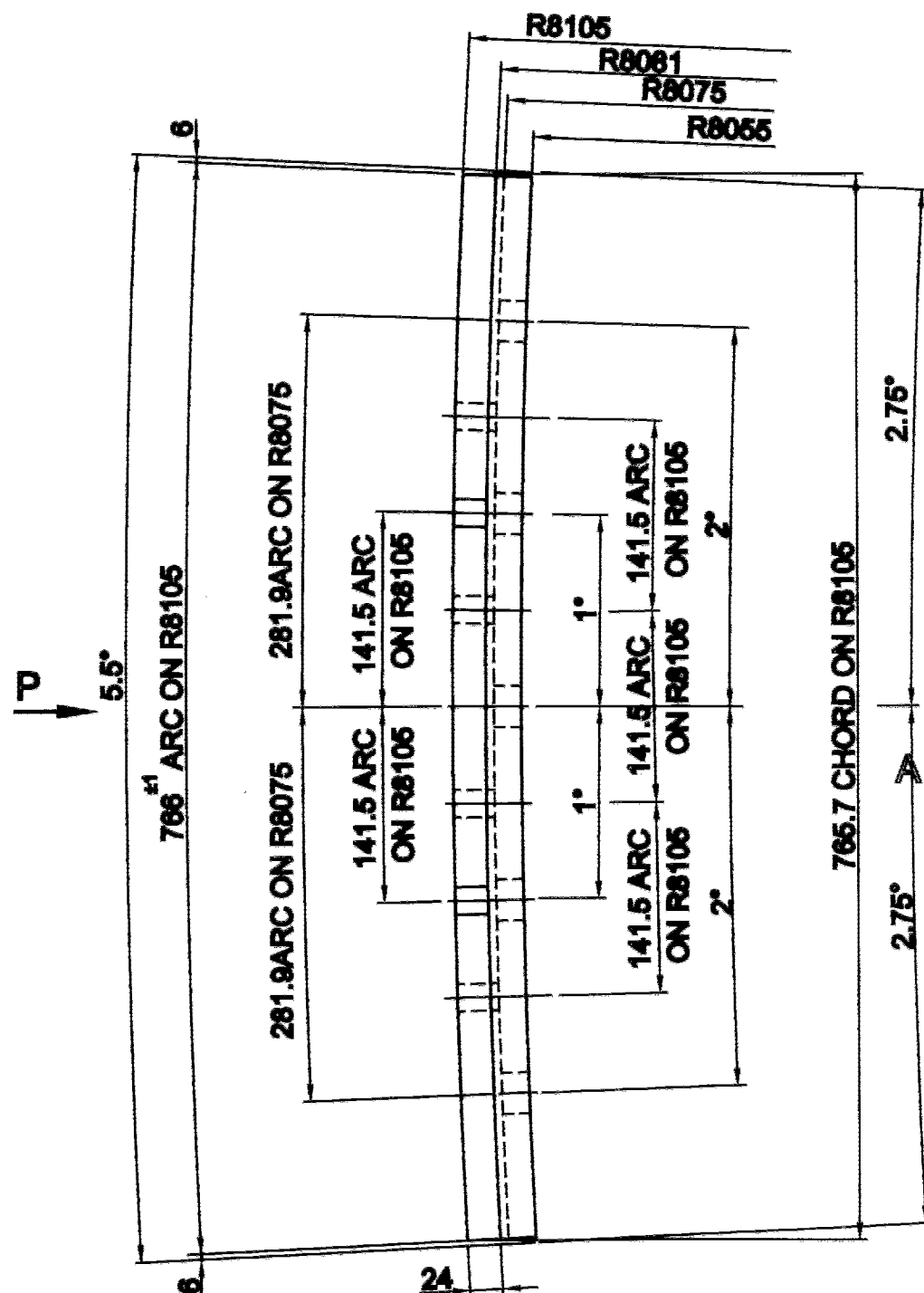


REV	DATE	ALTERED	BY	REV	DATE	ALTERED	BY
02	27.02.14	CHECKED	S.N.Kumar	01	23.01.96	CHECKED	
		APPROVED	S. Loganathan			APPROVED	
NEW BORDER INSERTED.				CHEMICAL COMPOSITION C 3.5%MIN WAS C 3.81-4.40% CARBON EQUIVALANT 3.8 TO 4.4 AND NOTE ADDED.			

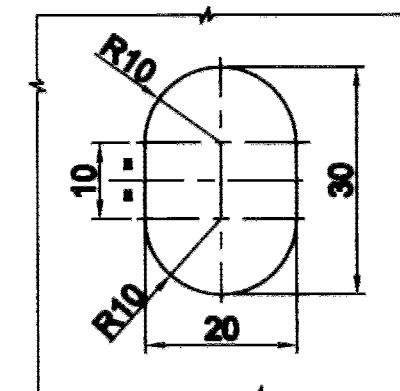
ITEM NO		DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: ROTARY HEARTH FURNACE							
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	B.ASHOKKUMAR	SIGNATURE <i>B. Ashokkumar</i>	DATE 10.05.02
				CHD	SSN.KUMAR	<i>SSN. Kumar</i>	10.05.02
				APPD	SS.SUNDARAM	<i>SS. Sundaram</i>	10.05.02
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE 1:5	WEIGHT (Kg) 46.7	REF TO ASSY DWG NO		ITEM
CODE 456	φ / M / F IS: 2102		REF TO OLD DWG NO		3581342/3		
TITLE RHF – INNER CURB CASTING				CARD CODE U 01	DRAWING NO : 2-7-1101-13-01826	REV 02	



ALL DIMENSIONS ARE IN MILLIMETERS



SECTION-AA



ENLARGED DETAILS OF CORED HOLES(TYPICAL)

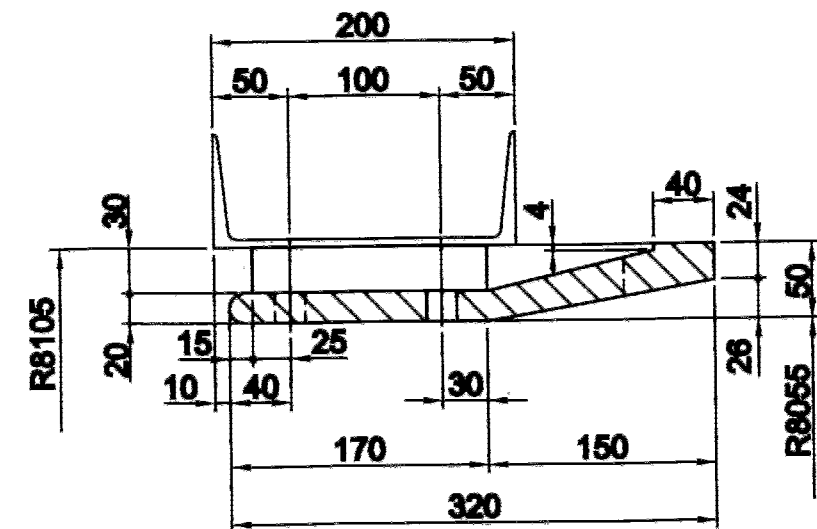
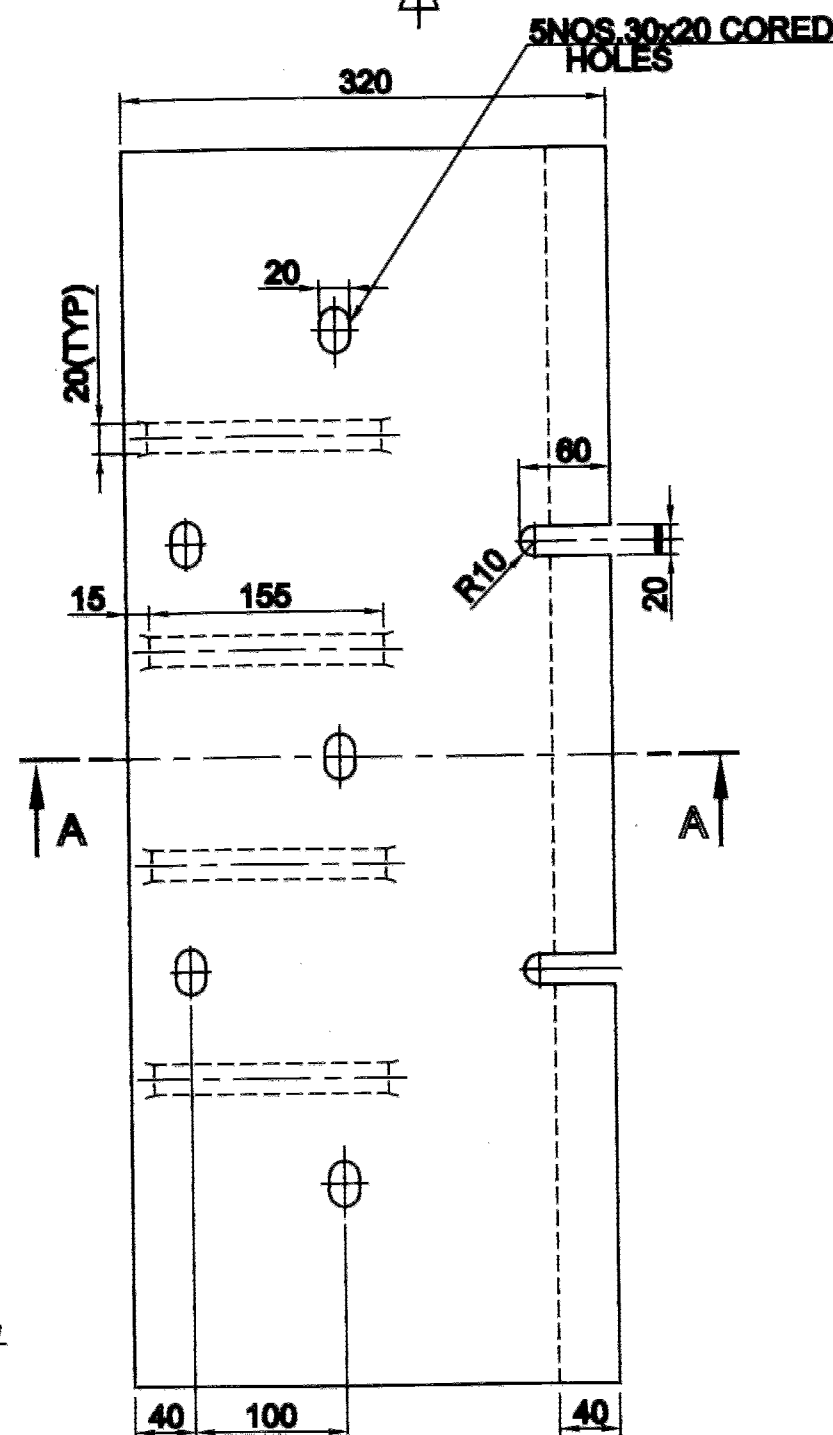
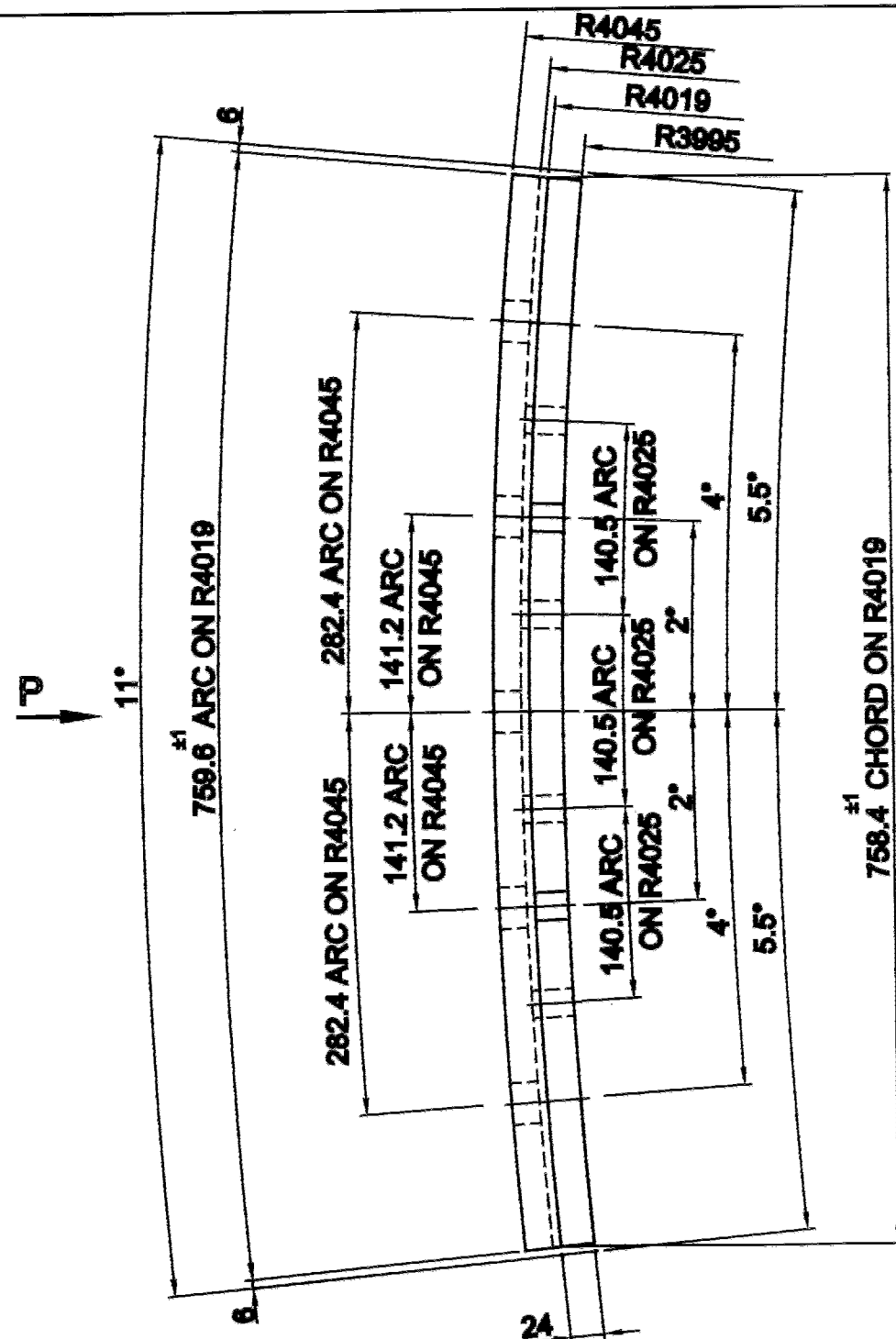
NOTES:

1. ALL CORNERS TO BE 3mm. RADII UNLESS STATED OTHERWISE.
2. UNSPECIFIED TOLERANCES AS PER IS:2102 MEDIUM CLASS OF DEVIATIONS.
3. ITEM NOS. TO BE PAINTED ON EACH ITEM THIS MANNER:
ITEM NO. - DRG. NO JOB. NO.
4. FOR ARRGT. OF FIXED HEARTH DIPPER PLATES
REFER DRG. NO. 1-7-1101-13-00182

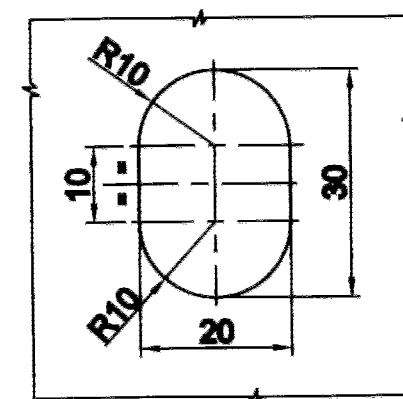
REV	DATE	ALTERED :	REV	DATE	ALTERED :
02		CHECKED :	01		CHECKED :
ZONE		APPROVED	ZONE		APPROVED

		H.R.C.S	
		Gr-4 IS:4522	
		60	
ITEM NO	DESCRIPTION	DRAWING NO	UNIT WT
			QTY
EQPT: ROTARY HEARTH FURNACE			
Bharat Heavy Electricals Ltd		DRN	NAME
SEAMLESS STEEL TUBE PLANT		CHD	P. RAMAKRISHNAN
TIRUCHIRAPALLI - 620014		APPD	SHANMUGASUNDARAM S
			SIGNATURE
			DATE
			17.12.04
			18/12/04
			19/12/04
DEPT	GRADE OF UNTO. DIM	SCALE	WEIGHT(kg)
MPG	C/M/F	1:5	43.5
CODE		1:1	
TITLE		CARD CODE	DRAWING NO :
WALL RETAINER CASTING-II		U 01	3-7-1101-13-04702
OUTER WALL			REV
			00

ALL DIMENSIONS ARE IN MILLIMETERS



SECTION-AA



ENLARGED DETAILS OF CORED HOLES(TYPICAL)

NOTES:

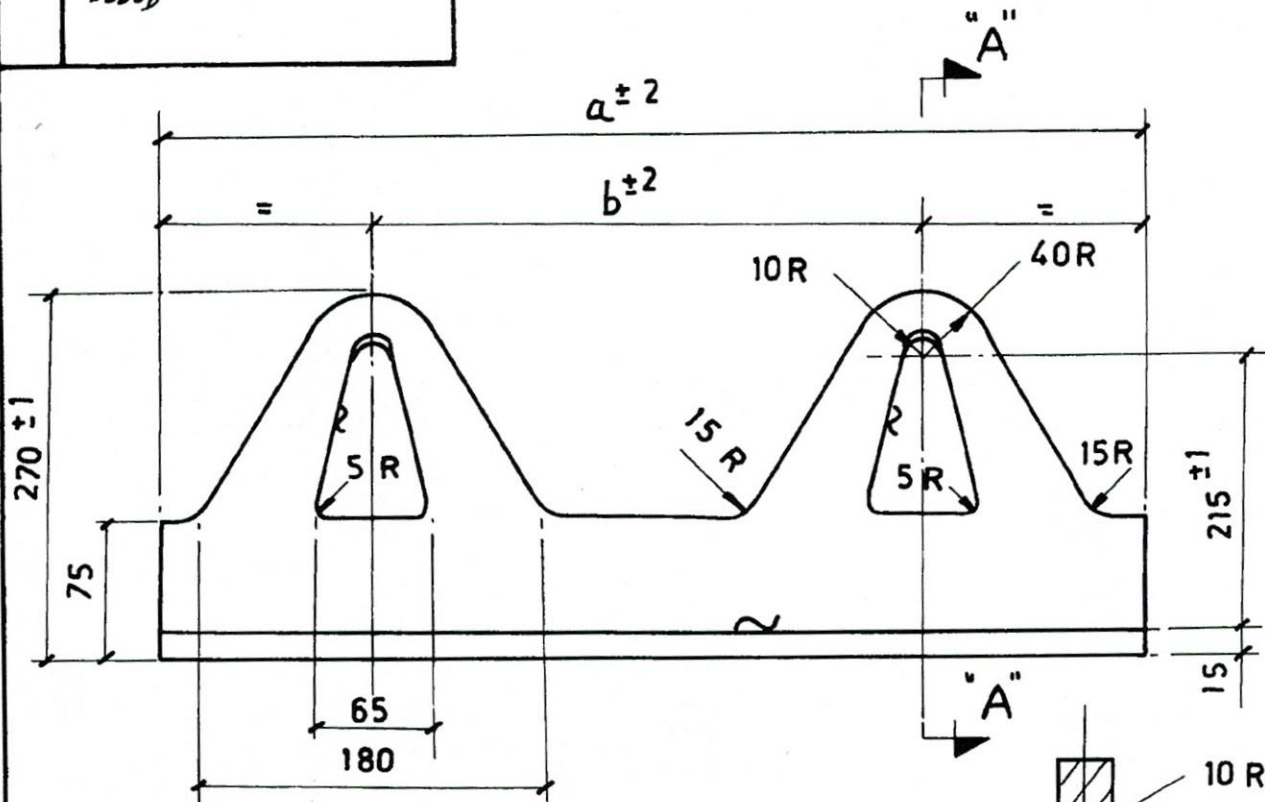
1. ALL CORNERS TO BE 3mm.RADII UNLESS STATED OTHERWISE.
2. UNSPECIFIED TOLERANCES AS PER IS:2102 MEDIUM CLASS OF DEVIATIONS.
3. ITEM NOS.TO BE PAINTED ON EACH ITEM THIS MANNER:
ITEM NO. - DRG.NO JOB.NO.
4. FOR ARRG.T. OF FIXED HEARTH DIPPER PLATES
REFER DRG.NO.1-7-1101-13-00182

REV	DATE	ALTERED :	REV	DATE	ALTERED :
02		CHECKED :	01		CHECKED :
		APPROVED			APPROVED
ZONE			ZONE		

		H.R.C.8	
		Gr-4 IS:4622	30
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE
			UNIT WT
			MATL SPEC
			QTY
EQPT: ROTARY HEARTH FURNACE			
Bharat Heavy Electricals Ltd		DRN	NAME
SEAMLESS STEEL TUBE PLANT		CHD	P. RAMAKRISHNAN
TIRUCHIRAPALLI - 620014		APPD	SHANMUGASUNDARAM S
			SIGNATURE
			DATE
			17.12.04
			18/12/04
			18/12/04
DEPT	GRADE OF	SCALE	WEIGHT(kg)
MPG	UNTOL DIM	1:5	
CODE	C/M/F	1:1	43.2
TITLE		REF TO ASSY DWG NO	
WALL RETAINER CASTING-IV		REF TO OLD DWG NO	
INNER WALL		358134 2/3-7	
		CARD CODE	DRAWING NO :
		U 01	3-7-1101-13-04704
			REV
			00

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

REV	DATE	ALTERED
01	13/2/95	<i>[Signature]</i>
ZONE	CHEMICAL COMPOSITION	CHECKED
	<i>[Signature]</i>	



TYPE	$a \pm 2$	$b \pm 2$	WT PIECE	QTY	CONTRACT NO.
I	580	300	9.6	733	C-3282
II	430	225	7.6	302	C-3282

MATL. - H.R.C.I.**CHEMICAL COMPOSITION OF H.R.C.I.**

C 1.8 - 3.0%
 Si 0.5 - 2.5%
 Mn 0.3 - 1.5%
 Cr min 13%
 Ni min 5%

SEC-AA

ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY

EQPT: ROTARY HEARTH FURNACE



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

DRN	NAME	SIGN	DATE
CHD	BS Rao	<i>[Signature]</i>	10.2.88
APPD	HNY Rajan	<i>[Signature]</i>	

DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (kg)	REF TO ASSY/OLD DRG	ITEM NO.
CODE	C/M/F	1:4 (1:2)		4-1101-02-090*	
TITLE	CARD CODE	DRAWING NO.	REV.		
BRICK HANGER CASTING	U 01	4-7-1101-01-04433 01			