



RAICHUR POWER CORPORATION LIMITED

(A JOINT VENTURE COMPANY OF KPCL & BHEL)

2 x 800 MW - YERMARUS THERMAL POWER STATION, KARNATAKA

TENDER DOCUMENT

Procurement of Refractory for Bottom ash hopper at YTPS

Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020

**Office of the
SUPERINTENDING ENGINEER(E)**
RAICHUR POWER CORPORATION LTD
YERAMARUS THERMAL POWER STATION
YERAMARUS, RAICHUR-584 134



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CALENDAR OF EVENTS

Procurement of Refractory for Bottom ash hopper at YTPS

Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020

Following are the Calendar of bid events for two cover tender system

| | | |
|---|--|-----------------------------------|
| 1 | Period of Completion | 2 Months from the date of P.O. |
| 2 | Date of Publishing of Abstract Bid Notification and Brief Bid Notification in i) www.karnatakapower.com ii) www.eproc.karnataka.gov.in | 11.11.2020 |
| 3 | Last date for receipt of queries | 27.11.2020 16:00hrs. |
| 4 | Last date and time for submission of technical bid cover-I along with EMD and Price bid cover-II through e-procurement cell. | 10.12.2020 16:30hrs. |
| 5 | Opening of Technical bid (cover-I) | 11.12.2020 17:00hrs. |
| 6 | Opening of Price bids (cover –II) | 11.12.2020 17:30hrs |

For **RAICHUR POWER CORPORATION LIMITED,**

Superintending Engineer (E)
Yermarus Thermal Power station
Raichur Power Corporation limited
Yermarus, Raichur-584134



DECLARATION

(To be given by the supplier at the time of submission of the completed tender)

Procurement of Refractory for Bottom ash hopper at YTPS

Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020

I / We have read the terms and conditions of the tender document and related matters carefully and diligently and that I/We have submitted the tender having studied, understood and accepted fully the terms & conditions and implications for the agreement.

I / We state that “The amount quoted in e-portal is on FOR destination basis i.e., inclusive of GST, P&F, Freight and Insurance charges”.

The requirement of the tender agreement as stated above will be fulfilled by me/ us to the entire satisfaction of the purchase committee of the Raichur Power Corporation limited, Yeramarus.

(SIGNATURE OF THE SUPPLIER WITH SEAL)



PRE-QUALIFICATION REQUIREMENT

Procurement of Refractory for Bottom ash hopper at YTPS

Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020

1. The bidder shall be a manufacturer/authorized dealer/supplier of castable refractories and shall have successfully supplied castable refractories to any Govt. sector/PSU/ Major Power plants/ reputed Private sector/ major industries. In proof of the same, the bidder shall upload copies of purchase orders of order value of Rs.75,000/- or more.
2. The bidder shall have achieved, in his name/firm, an average annual turnover of Rs.1.5 lakh in at least two financial years in the preceding five financial years i.e., 2019-20, 2018-19, 2017-18, 2016-17 and 2015-16. As a proof of this, the bidder shall furnish Annual Turnover Certificate / Profit & Loss statement duly certified by a chartered accountant.

For **RAICHUR POWER CORPORATION LIMITED,**

Superintending Engineer (E)
Yermarus Thermal Power station
Raichur Power Corporation limited
Yermarus, Raichur-584134



TERMS AND CONDCTIONS OF THE TENDER

Procurement of Refractory for Bottom ash hopper at YTPS

Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020

1. DEFINITION OF TERMS:

- a. The expression “Goods” where used in these conditions shall unless there be something either in the subject or context represent to **Procurement of Refractory for Bottom ash hopper** to Yeramarus Thermal Power Station (YTPS).
- b. The “Corporation/Company” means **Raichur Power Corporation Limited (RPCL)** a JVC of KPCL& BHEL having registered office at Drug Control Premises, Opp. BSNL office, Palace road, Bangalore-560 001, Karnataka State.
- c. YTPS – means Yeramarus Thermal Power Station, to where the Instruments are to be delivered/ unloaded by the agency.
- d. “Engineer” means the Chief Engineer(O&M)YT of Yeramarus Thermal Power Station (YTPS) or any engineer any authorized officer nominated by Chief Engineer (O&M)YT and is the authority to receive the Instruments at YTPS store.
- e. The “Agency/Contractor” means the Agency to whom this work is awarded on successful bidding.
- f. “Notice in Writing” or “Writing Notice” shall mean a notice written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address or registered office of the ordinary course of post it would have been delivered.
- g. “Premises of Company” means, YTPS project situated in Raichur District Karnataka State.
- h. Whenever in this contract the words “Directed”, “Required”, “Ordered”, “Desired”, “considered” “Necessary”, or like words are used, it shall be understood that the directions, requirements, permissions, orders, desiring, etc., of the Chief Engineer(O&M)YTor other authorized Officers words “Approved”, “Acceptable”, satisfactory to the Chief Engineer(O&M)YT, YTPS, RPCL unless any other meaning is otherwise intended.
- i. Calendar Month means English calendar referred for the purpose.

2. INSTRUCTIONS REGARDING E- PROCUREMENT:

- a. The bid is to be submitted in the Government of Karnataka e-procurement platform system only.
- b. Bidders, who have not registered in e-procurement portal, may do so by registering through web site www.eproc.karnataka.gov.in.
- c. **Tender documents may be downloaded from Government of Karnataka e-procurement website <https://eproc.karnataka.gov.in> under login for Contractors:**

After login to Contractors, Please scroll down to the right side bottom to see List of tenders, please click there to find the details of NIT and download copy of the tender. The tender can be downloaded in the portal as per prescribed date and time published in the portal. Only interested Contractors who wish to participate should remit on line transaction fee for tender after registering in the portal. The transaction fee is non-refundable.



- d. The bidders can access bid documents on the web site, fill them and submit the completed bid documents in to electronic tender on the website itself within the stipulated date. The blank bid documents can be accessed through e-procurement portal web site www.eproc.karnataka.gov.in.
- e. Bidders shall attach scanned copies of all the certificates pertaining to the qualification requirement as mentioned under Pre-qualification Requirements clause. Whenever required, bidders shall furnish the original certificates to the RPCL authorities, failing which, the bidder will be disqualified.
- f. Conditional bids, incomplete bids, bids without EMD, bids not properly uploaded and bids submitted late shall be rejected.
- g. Bidders shall refrain from altering/modifying/revising the price bids after the date and time fixed for submission of bids in the calendar of events even though if it is accepted by the portal. Date and time stamp of the portal shall be final in deciding the time and date of submission of bid. Decision of the Corporation in this regard is final and acceptable to all the bidders.

3. GENERAL TERMS AND CONDITIONS OF TENDER:

- a. It shall be the responsibility of the Tenderer to furnish all the particulars which are required for due consideration of the tender though not mentioned in the specification.
- b. Tender validity shall be 180 days from the date of opening.
- c. The tenderers are advised to pursue all the clauses in the specification and the instructions before quoting. **For any queries / clarifications on technical specifications, the bidder shall contact 09480682892 or send mail to eeprpcl@gmail.com and get clarified before quoting.**
- d. The right to reject any or all tenders without assigning the reasons is reserved by the Chief Engineer (O&M)/YTSPS.
- e. The agency should give clearly in his tender the place of residence and postal address. The delivery at the above name, place or position in the post box regularly maintained by the post office or sending by letter registered for acknowledgement or other communications shall be deemed sufficient proof thereof.
- f. The agency should upload signed tender document as a confirmation for acceptance of tender terms and conditions.
- g. The documents furnished through e-portal shall be accepted only after verification with the originals. The tenderer shall produce the originals for verification.
- h. It is not binding on the RPCL to accept the lowest or any other tender.
- i. If any tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the tender which are not acceptable to the Corporation, then the Corporation shall without prejudice to any other rights to remedy, be at liberty to forfeit 100% of the earnest money deposit.
- j. Tenders with arbitration clause will not be accepted.
- k. Post bid correspondence will not be entertained.



4. INSTRUCTION TO BIDDER

- a. The Bidder has to submit all the necessary proofs/ documents in support of qualifying requirement. In case the proofs/ documents not fulfilling and / or not matching with the qualifying requirements as mentioned in this clause 8, the bidder shall not be qualified for the bidding process.
- b. Clear readable photocopies of documents should be provided. The tenderer shall produce originals for verification on demand.
- c. Pre-Qualifying requirement are to be read in totality and not in isolation.
- d. All relevant documents should be submitted along with the Tender, failing which, the Tender shall be liable for rejection.
- e. It is essential to fill in all the information in the prescribed schedule or else the tender will be liable for rejection.
- f. Quoted prices shall be inclusive of all applicable taxes & duties. The basic price and breakup of taxes & duties applicable are to be indicated in the relevant window/ screen of the e-portal.
- g. RPCL also reserves the right to seek additional information as it may deem fit to satisfy itself of the eligibility of the Bidder.
- h. Bidder cannot submit multiple bids.
- i. Bidders shall not be under declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Karnataka.
- j. Price bid of bidders who have furnished all the documents to meet the qualification criteria, technically and commercially responsive will only be opened.
- k. RPCL reserves the right to verify any information/ documents furnished by the bidder should the circumstances so warrant. In case the information or the documents furnished are found to be in correct/ false or invalid then the EMD Furnished by such bidder will be forfeited.
- l. Corrigendum/ Modification/ Corrections, if any will be published in the website only. For any clarification on e-procurement or request for e-procurement training, bidder can contact Helpdesk at: 080 23010900/ 23010901.

5. EARNEST MONEY DEPOSIT (EMD)

- a. Deposit the EMD **Rs. 1500/- (Rupees One thousand five hundred only)** through e-portal only.
- b. Government of Karnataka Notification No. FD/850/EXP/12/2015, Dtd.29.12.2015 **had exempted MSE registered with (NSIC)** supplier with following exemptions:
 - i. MSME registered with NSIC under a single point vendor registration scheme, shall be facilitated by exempting from payment of EMD deposit during purchase all Government Department and State owned PSUs.
 - ii. Policy is meant for procurement of only goods produced and services rendered by MSEs. However, **traders are excluded** from the purview of Public Procurement Policy.



- c. Tenders must be accompanied by Earnest Money Deposit (EMD) & should be paid online through e-procurement portal using any of the following payment modes:
- Credit Card
 - Direct Debit
 - National Electronic Fund Transfer (NEFT)
 - Over the counter (OTC) (only through designated branches)
- d. Tenders must be electronically submitted (online through internet) within the date and time published in e-procurement portal. The tenders will be opened at prescribed time and date in the e-procurement portal, in the presence of the Tenderers who wish to attend at the office of the Executive Engineer (MSP) RPCL, YTPS, Yermarus 584134. Raichur, District. EMAIL: sespytpskpcl@karnataka.gov.in/eeprpcl@gmail.com.
- e. If the bidder withdraws his bid before the expiry of the bid validity period prescribed in the bid specification or if the successful bidder fails to submit the contract performance guarantee as specified in the bid and or fail to enter into a contract with the Corporation in the form prescribed with related requirement within 30 days of the date of letter of award, the EMD will be forfeited as liquidated damages.
- f. The EMD furnished by unsuccessful bidders will be returned, only after the award of contract and entering in to agreement with the successful bidder.
- g. For the successful bidder, the EMD will be returned, only after he enters into contract agreement and furnishes the contract performance guarantee (Security Deposit) in an acceptable form.
- h. No interest is payable to the bidders for the Earnest Money Deposit amount.
- 6. ISSUE/SUBMISSION/SCHEDULE AND OPENING OF TENDER:** As per the calendar of events indicated in the e-portal.

7. REJECTION OF TENDER:

Tender is liable to be rejected immediately, if the tender is:

- Not in the prescribed form
- Not accompanied by the requisite EMD.
- Not meeting the Pre-qualifying requirements indicated in the tender.
- Not properly signed by the tenderer.
- From any black listed firm or contractor.
- From the tenderer whose past performance is not satisfactory/failed supply the ordered quantity and EMD forfeited.
- Not in conformity with the tender terms and conditions.
- Bidder shall quote as per the schedule (Unit and Quantity) such as kg, Liter, Mtr. Nos. etc. If it is not as per schedule, the declaration shall be up loaded stating the reason, if not such bidder's EMD will be forfeited without any further communication.

8. TENDER EVALUATION:

RPCL will reserve the right for evaluation. Item wise evaluation will be done and unit rate inclusive of taxes, insurance and supply on FOR destination will be considered.



9. RIGHTS OF RPCL:

- a. RPCL reserves right to seek for any additional details/ documents required at any point of time during and after the process of bidding. If the agency fails to furnish such details their offer is liable for rejection.
- b. It reserves right to modify, change; cancel any or all the tenders without giving any reason thereof.

10. SCOPE OF SUPPLY:

Procurement of **Refractory for Bottom ash hopper at YTPS** as per the specification indicated in the schedule, to Store of Yeramarus Thermal Power Station within the delivery period to be stipulated in the order from RPCL, as per procedure indicated in the tender.

11. PRICES:

Rates quoted shall be inclusive of all statutory components such as GST, P&F, freight charges etc., upto Destination i.e. landing cost. It is mandatory to indicate the statutory and other components under heading statutory components sub-heading added statutory components zone of e tender. Claims for GST extra, P&F extra, F&I extra or **any additional costs to the uploaded rates will not be entertained once the price bid is opened**. If the bidder claims as extra any of the above said components, the bid will be rejected and EMD amount will be forfeited.

The rate quoted should be firm for the entire period of contract. Rate quoted in e-portal is only considered for evaluation.

12. ACCEPTANCE OF THE PURCHASE ORDER :

The successful Tenderer shall clearly confirm the acceptance of the purchase order within 15 days of receipt of the purchase order by him. In case of failure to do so, it will be treated that the order has been accepted in entirety.

13. AGREEMENT:

An agreement shall be executed by the successful tenderer within 30 days after receipt of the purchase order on stamped duty paid attested purchased in Karnataka state only worth of Rs.200/- before effecting the supply. However in case any supplies are made the payment will be released only after entering into agreement. EMD will be forfeited if the supplier fails to supply the materials after acceptance/placing of purchase order/letter of intent. All the correspondence and minutes held after opening of the Tender and till finalization of the order shall form the part of the agreement. Six copies of agreement duly bound shall be submitted.

14. SECURITY DEPOSIT:

Security deposit of 10% of the total value of the order in the form of Demand draft or Bank Guarantee in favor of Raichur Power Corporation Limited, Yeramarus – 584 134, District Raichur, issued by any Nationalized / Scheduled Bank valid for the entire period of contract shall be furnished before effecting supply. The Bank guarantee shall be as per the proforma prescribed by the purchaser. The Security Deposit shall be released only after satisfactory completion of Guarantee period / Contract.

The supplier shall extend the validity of bank guarantee furnished towards Security Deposit beyond the stipulated period in case defects are noticed during the guarantee period. The bank guarantee shall be valid till such time the defective materials are replaced and performance of the same is found satisfactory for a further period of 12 / 18 months from the date of replacement of material.



15. GUARANTEE:

The materials supplied shall be guaranteed for satisfactory performance for a period of 12 months from the date of commissioning or 18 months from the date of dispatch, whichever is earlier against manufacturing defects/bad workmanship. In case the materials are found defective during the above guarantee period, the supplier shall replace the materials free of cost to the purchaser at site.

16. QUANTITY:

The quantities shown in the schedule are only indicative, approximate and are liable for extreme variation. Raichur Power Corporation Ltd., reserves its right to vary the quantities in the schedule to suit its actual requirement. The contractor is obliged to supply the additional quantity at the agreed contract price and also the contractor shall not have any cause of action for additional claim, if the quantity is decreased. RPCL reserves the right to award, whole or part of the quantity, should the situation so warrant.

17. DELIVERY :

Prior dispatch the supplier shall seek dispatch clearance from RPCL. The delivery of the material covered by the Purchase order shall be completed as per delivery schedule indicated in the purchase order, on F.O.R. destination. All the consignments shall be booked in the name of Executive Engineer (Stores), RPCL, Yermarus – 584 134, district Raichur, Karnataka. Payment of demurrage / Wharfage etc. will not be payable by RPCL on any account. RPCL reserves the right to place the orders for the items/quantity indicated in the tender, on one or more firms to suit R.P.C.L's requirements.

18. INSURANCE:

No materials shall be dispatched without being covered for transit risks with the underwriters. The insurance charges will be at tenderer's cost as the materials are to be supplied on F.O.R destination basis. Materials shall be dispatched securely packed so as to avoid damages/losses during transit.No detention charges shall be paid by KPCL. However arrangements shall be made to release the material / vehicle at the earliest subject to Force Majeure clause.

19. PAYMENT:

Payment shall be made only after receipt and acceptance of all the materials as per purchase order at our site. Payment will not be released till Tenderer execute the agreement and furnish the Security Deposit amounting to 10% of the total value of the order. Bill shall be prepared in quadruplicate in favour of Assistant General Manager (F), RPCL, YTPS, Yermarus with a copy each to consignee i.e., Executive Engineer (MSP), RPCL, Yermarus.

IF ANY OTHER FORM OF PAYMENT IS INSISTED THE CORPORATION RESERVES THE RIGHT OF LOADING THE ADDITIONAL COST TO ARRIVE AT THE LANDED COST WHICH MAY PLEASE BE NOTED.

Whatever may be the other conditions for the rates quoted by the tenderer it is only the conditions in the schedule or order that will bind the Executive Engineer (MSP), RPCL Yermarus – 584 134, District Raichur and if the successful supplier wishes that some other conditions quoted by him also be accepted, he shall specifically raise the issue as soon as the purchase order is received by him and get the same accepted or clarified.



20. PENALTY:

- a) EMD and Security deposit will be forfeited if the Tenderer fails to supply the materials within the stipulated period.
- (b) Penalty at the rate of 0.5% of the value of order will be levied for delay in supply of the materials for every week subject to a maximum of 5% value of the order.

If the successful Tenderer fails to supply the materials before the expiry of the stipulated delivery period, the purchaser reserves the right to cancel the order and forfeit the SD/EMD without prejudice to the claim for damages caused to purchaser on account of failure on the part of the supplier.

If the supplier fails to supply the materials within the stipulated delivery period, RPCL at its discretion can reject the materials supplied beyond the stipulated delivery period and the contractor has to make arrangements to take back the materials at his own cost & risk. RPCL will not be responsible for the loss/damage to these materials.

21. QUALITY OF MATERIALS / SPECIFICATIONS:

All Materials used shall be of best quality and class most suitable for working under tropical condition and shall withstand normal variation in temperature, and other service conditions without any disturbance or deterioration without affecting the strength and stability of the materials. Quality of the materials shall be clearly specified in the tender with relevant ISI & ISO / standards and the supply shall be as per the offer / detailed specification. Supplies not in confirmation to accepted / approved quality shall be liable to be rejected. The supplier shall arrange to collect the rejected materials and replace the same with approved quality materials at their risk and cost within the period of being informed in writing. The intending bidder shall furnish the copy of standard quality assurance plan. The bidder shall supply the materials confirming to the specification indicated in price bid.

22. TEST CERTIFICATES:

All test conducted as per the relevant standards shall be furnished. The supplier shall provide these test certificates without extra cost. In case RPCL desires to send their representative for witnessing the tests, the supplier shall arrange to perform the tests in the presence of RPCL representative. Certificate in respect of the country of origin shall be furnished in case of imported items. The supplier shall ensure that the materials to be supplied shall satisfactorily withstand such tests that are customary for the manufacturer for the type of the materials specified. The supplier shall furnish IBR Certificate in form IIC for valves issued by Director of Boilers.

23. TESTS & INSPECTION:

The goods shall be carefully inspected, subject to standard tests at manufacturers works before dispatch. The purchaser reserves the right for inspection of material and witnessing the tests, if considered necessary. For this purpose, the Contractor shall notify the Purchaser two weeks in advance, the time and place of manufacture and test. Pre- dispatch inspection certificate shall be furnished.

24. SUBLETTING OF CONTRACT:

The Supplier shall not, without the consent in writing of the Engineer or Purchaser, which shall not be unreasonably withheld, assign or sublet his Contract, or any substantial part thereof, other than raw materials for minor details, or for any part of the work of which the makers are named in the contract, provided that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.



25. REJECTION OF DEFECTIVE MATERIAL:

If the materials or any portion thereof, is found defective, or fails to fulfill the requirements of the contract, the purchaser shall give the supplier notice setting forth such defects or failure, and the supplier shall forthwith make good the defective material, or alter the same to make it comply with the requirement of the contract. Such replacement shall be carried out by the supplier within a reasonable time. Should he fail to do so with the requirement of the contract / fail to do so within reasonable time the purchaser may reject and replace, at the cost of the supplier, the whole or any portion of the material, as the case may be which is defective or fails to fulfill the requirement of the contract.

If the materials supplied are found to be substandard and get rejected, the name of such supplier will be circulated to all the power station.

26. FORCE MAJEURE CLAUSE:

If at any time during the continuation of the contract, the performance in whole or in part or any obligation under this contract shall be prevented or delayed by reason of act of god such as war, fire, flood, earthquake, acts of Civil Commotion, acts of Govt. etc.,(herein after referred to as eventuality), then provided not in writing of such happenings of eventuality is given, within 15 days of occurrence thereof either party shall on the reason of such eventuality can terminate this contract without have any claim for damage against the other in respect of nonperformance or delay in performance of the contract, provided such occurrence of eventuality has prevented or delayed the execution / performance of contract for a period exceeding 60 days.

Power cut imposed by the government, if any shall not effect supply of materials by the successful tenderer. Under any condition, the tenderer shall make his own alternate arrangements to adhere to the delivery schedule.

27. LIQUIDATED DAMAGES:

Please note that if the materials are not delivered /dispatched within time specified above, the PO may be cancelled and the materials will be purchased at your risk. In addition a penalty of 3% of order value will be levied on you by way of liquidated damages.

28. GRANT OF EXTENSION OF TIME:

In the event the contractor is hindered in the execution of supply for reasons beyond his control which could result in non-completion of supply within the completion period, the corporation may, at the request of the contractor in writing extend the completion period and the contract period by such period as it is considered reasonable under the circumstances, provided that such request shall be made within 07 days of occurrence of the cause necessitating the extension and/or the expiry of the completion period .In this regard, the decision of Chief Engineer (O&M)YT/RPCL, is final and binding on the contractor/agency.

29. INSTITUTION OF SUITS:

Any suit or any proceedings arising in any respect under this contract shall be subject to Jurisdiction in law courts at Raichur, Karnataka State only. It is agreed that no other court shall have jurisdiction to entertain any suit or proceedings even though part of the cause of action might arise within the jurisdiction of any such courts. **Arbitration** in this contract is not acceptable.

Any of the terms and conditions mentioned here under general terms and conditions specifically not commented or not mentioned in your offer shall be construed as accepted and considered for incorporating while processing the offers for ordering.



30. DISPUTES:

Arbitration clauses will not be applicable for the Settlement of disputes arising out of this contract.

31. TERMINATION OF CONTRACT:

If, any of the documents / information furnished by the bidder is found to be false after award of the contract, their EMD and SD will be forfeited and their contract will be terminated.

If the contractor fails to supply the order quantity within the delivery period the Corporation reserves the right to terminate the contract by giving a months' notice. EMD and SD furnished against enquiry and PO will be forfeited.

For **RAICHUR POWER CORPORATION LIMITED,**

Superintending Engineer (E)
Yermarus Thermal Power station
Raichur Power Corporation limited
Yermarus, Raichur-584134

SPECIFICATION OF ITEMS

Procurement of Refractory for Bottom ash hopper at YTPS **Tender No. SESP/ET/MA3/EE(M-3)/YTPS/20-21/1143 dated 11.11.2020**

| Sl No | Item Code Name & Specification | Unit | Qty | HSN Code | GST % | Delivery Period | Make |
|-------|--|------|-----|-------------|-------|--------------------|------|
| 1 | 613020339B REFRACTORY FOR BOTTOM ASH HOPPER Castable Refractory for bottom ash hoppers, Grade of Heat refractory:- as per IS-1527(chemical composition) IS-1528(physical composition); Max.temp that the refractory can withstand cont without deterioration- 1400 degcel. Chemical composition of refractory :- Al ₂ O ₃ (alumina)-42 to 46%, Fe ₂ O ₃ (ferric oxide)- 3.4 to 4.2% Compressive strength of refractory :- 250kg/cm ² (min.) at 110 C 350 kg/cm ² (min.) at 1400 C. Refractoriness:- ASTM Cone No.20 at 1564 C. Dry density:- 2100 kg/cu.m @110C(Approx.) Max. grain size:- 5mm.Water addition :- 10-12%. Thermal conductivity :- 0.81-0.85 K cal/m/hr/degree centigrade @800 degree centigrade HF. Manufacturer:- Calderysindia refractories ltd/PKV/Swadiminerals/Equivalent | MT | 10 | | | | |

Note:a) Clarification shall be sought through email / phonebefore quoting.

b) Rates quoted shall be inclusive of all applicable taxes, duties, levies etc., and FOR Destination basis (YTPS site premises as directed)

SIGNATURE OF THE AGENCY WITH SEAL