

DOCUMENT

Open Competitive Bid (OCB)

For

**Supply and Installation of
Corrosion and Environmental Degradation Lab
equipments of
Metallurgical & Materials Engineering Dept.
at the three campuses of
Rajiv Gandhi University of Knowledge
Technologies**

Proprietary & Confidential



**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE
TECHNOLOGIES**

**Ground Floor, Vindhya C4 Building,
IIIT-H Campus, Gachibowli
HYDERABAD- 500 032**

Phone: 040-23001830

Proprietary & Confidential

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News paper advertisement

Short Tender Notice



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Separate Sealed Tenders are hereby invited from reputed Manufacturers or Authorised dealers for supply and installation of Lab equipments for the following labs of Metallurgical & Materials Engineering Departments at the three campuses of RGUKT located at Basar (Adilabad District), Nuzvid(Krishna District) and RK Vally (YSR Kadapa District):

- 1) Chemical Metallurgy Laboratory
- 2) Physical Metallurgy Laboratory
- 3) Corrosion and Environmental Degradation Laboratory
- 4) Material Testing and Processing Laboratory
- 5) Heat Treatment Laboratory

Last date of submission of tender along with EMD as specified in the bid document is on **09.08.2012 before 04 .00 pm.**

Interested parties can collect the Tender document for each laboratory from **25.07.2012 to 08.08.2012** against payment of Rs. 5,000/- towards the cost of Tender document fee (non-refundable) through D.D. from any Nationalized Bank payable to REGISTRAR, RGUKT at Hyderabad from the office of the RGUKT. For further details visit our website www.rgukt.in

Date: **25.07.2012**

Sd/
Registrar

Time schedule of various Short tender related events

Bid calling date	25.07.2012
Last date for sale of document	08.08.2012 at 05:00 P.M
Pre bid meeting	31.07.2012 at 11.45AM
Bid closing date/time	09.08.2012 at 04:00 P.M
Technical Bid Opening date/time	13.08.2012 at 03:30 P.M.
Price Bid opening date/time	14.08.2012 at 05:00 P.M
Bid Document fee	Rs.5,000/-
Contact person	Registrar, RGUKT
Reference No	RGUKT/Proc/MME/CEDL/T 22/2012

Registrar,
RGUKT

TENDER FORM

Not transferable

Reference. No. RGUKT/Proc/ MME/CEDL/T 22/2012

Dated 25.07.2012

Subject: Invitation of Tenders for Supply, installation and commissioning of Corrosion and Environmental Degradation Lab Equipments to the Metallurgical & Materials Engineering Departments at three campuses of RGUKT located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and RK Valley (YSR Kadapa Dist) of Andhra Pradesh.

Last date and time for submission of the TENDER AT RGUKT, Vindhya-C4, IIIT Campus, Gachibowli, HYDERABAD is **09.08.2012 up to 4:00PM**

Dear Sir/Madam,

- A. RGUKT invites sealed tenders comprising technical bid and price bid separately from reputed manufacturers (or) authorized dealers for three RGUKT IIITs located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and R K Valley (Kadapa Dist) of Andhra Pradesh.
- B. The Tender form consists of **34 pages of which pages from 6 to 17** are instructions and **page No.25** contains the format for financial bid. The duly completed Technical Bid together with a copy of the bid document (this tender) signed on all pages by the Bidders authorized signatory and the Price Bid should be kept in separate sealed covers. These sealed covers must be submitted in a sealed master envelope super scribed "Tender for Supply, Installation & Commissioning of Corrosion and Environmental Degradation Lab Equipments to the Metallurgical & Materials Engineering Departments at the three campuses of RGUKT. The last date for submission of bid is **09.08.2012 and closing time is 04:00 PM.**
- C. The Sealed Tenders should be deposited in the Tender box kept in the office of Registrar, RGUKT, Hyderabad up to **04:00 P.M. on 09.08.2012.**

For any clarification and further details on the above tender please contact by Telephone No: 040-23001830 or Contact in Person during office hours.

Thanking you

Yours faithfully,

Registrar,
RGUKT.

STATEMENT OF IMPORTANT LIMITS/VALUES RELATED TO BID

Item	Description
EMD	Rs.60,000/- by way of Demand Draft from any Nationalised Bank or by way of irrevocable bank guarantee from any Nationalised Bank only. DD/BG from other than Nationalised Banks will not be accepted.
Bid Validity Period	365 days from the date of opening of Financial bid
EMD Validity Period	90 days from the date of opening of Financial bid
Warranty Period	3 years
Variation in quantities/number of residents	+ 40 %
Period for furnishing performance Security Deposit	Within 10 days from date of receipt of award
Delivery Schedule	Bidder shall deliver the goods in one single lot within 30days from the date of award of the contract.
Performance security value	5% of contract value by way of irrevocable Bank Guarantee from any Nationalised Bank
Performance security validity period	38 months from award of contract (including 30 days of installation period)
Period for signing the order Acceptance	Within 7 days from date of receipt of notification of award

Payment terms	
On delivery at user site	<p>Payment for goods and services shall be made in Indian rupees as follows.</p> <ol style="list-style-type: none"> 1. 80% of payment will be paid after installation, commissioning 2. Balance 20% will be paid after 3 months after obtaining the satisfactory certificate from the Director, RGUKT IIITs.
Maximum Liquidated Damages for late deliveries	<p>For delays:- If the supplier fails to deliver any (or) all of the goods or perform the services within the time period specified in the contract the purchaser shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damages a sum equivalent to 0.25% of the contract value per day until actual delivery or performance up to a maximum deduction of 10% of the delayed goods or services contract price. Once the maximum deduction is reached, the purchaser may consider the termination of the contract duly forfeiting the performance security etc.,</p>

5. ELIGIBILITY CRITERIA

1. This bid is open to all firms within India who are eligible to do business under relevant Indian laws as in force at the time of bidding, subject to meeting the pre-qualification criterion. They should provide list of customers of previous supply of similar/ same items to IITs, NIT's or Central Universities or any Academic Institute of National repute with contact details. Copies of orders received from the reputed firms on bidding firm need to be submitted.
2. The bidder should have servicing facility or work shop with in India so the provision of service is possible at a short notice and without incurrance of delay.
3. The Bidding firm should have minimum turnover as follows:

Bid Value offered against the tender call	Last financial year's business turnover
25 lakhs	50 lakhs
50 lakhs	1 crore
50-100 lakhs	2 corers
Greater than 100 lakhs	3 Crores

The bidder should have adequate experience in supply of such materials/ equipment as required in the tender. Bidder should furnish proof of having supplied such materials as required in the tender in the previous financial year ending 31st March 2012 as mentioned above . A certificate of the bidder's turnover in Rupees must be enclosed and be duly certified by a firm of chartered accountants. In this certificate the turnover of subject material during 2011-2012 (ending with 31.03.2012) must be covered.

4. The bidder should furnish satisfactory performance certificate from the parties concerned to whom bulk supplies were effected, in case such supplies were made. RGUKT may contact any such parties to elicit details.
5. Bidder should be registered under VAT Act/CST Act with the relevant State Sales Tax Authorities. He should furnish along with the bid document, the relevant VAT/CST Registration Document and PAN / TAN Card copies.
6. All bidders shall also include the following information and documents with their tenders (in the Technical bid cover)

- a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the bidding firm/entity; written power of attorney of the signatory of the Bid to commit the Bidder.
 - b) Machinery/equipment owned by the bidder and number of employees.
 - c) Latest Income Tax returns and VAT/CST Returns filed.
 - d) List of Present Clientele with contact addresses & telephone numbers.
7. All the certificates furnished along with technical bids should be attested by a Gazetted Officer, counter signed by bidder along with their seal.

The bidders must submit all relevant documentary evidence in support to their claim for eligibility in placing bid. **The tenders received without the above documents will be rejected.**

Requirement of Corrosion and Environmental Degradation Lab Equipments

S.No	Item	Total qty required
1	Digital pH Meter	06
2	Digital weighing balance	03
3	Electric Bunsen Burner	15
4	High Temperature Oxidation Furnace	03
5	Hot Plates	06
6	Laboratory oven	03
4	Stirrer with temperature control and hotplate	06
8	Magnetic Stirrer	03
9	Motorized Laboratory Stirrer	06
10	Noncontact thermometer	03
11	SALT SPRAY CHAMBER	03
12	Ultrasonic Cleaner	03
13	Variable Impact tester	03
14	Thermostatic Water Bath	03

1. Digital pH Meter Required features

- Measures pH & mV
- Highly Stable and Accurate
- Auto Temperature Compensation and Autocalibration
- 3½Digit Display
- Auto Polarity & Decimal Indication
- Battery & Mains Operated Available
- pH range 0-14 with an accuracy of ± 0.01 pH, Temperature range -5°C to 80°C
- Input impedance : $> 10^{12}$ ohm
- Input power : single phase AC mains

2. Digital weighing balance

FEATURES required

- Multiple weighing modes
- Capacity up to 210g with 0.1mg readability
- Efficient filtering-out of unfavorable ambient conditions such as vibration and drafts

- Ease of operation
- Multiple weight units
- Rugged, durable construction
- Unit Conversion
- Piece Counting
- Percentage Weighing
- Net-total formulation
- Averaging
- Lock down capability

3. Electric Bunsen Burner

Should have the following features

- Full Stainless Steel body
- Max. Temperature 800° C
- Power consumption about 350 Watts
- Operates on 220-240 V single Phase A/C
- Built-in Energy regulator
- Light Weight construction

4. Specification of High Temperature Oxidation Furnace (Corrosion and Environmental Degradation studies)

- **FURNACE**
- 1. Shell size and useful volume : 600 x 600 x 600 mm and 200 x 60 mm
- 2. Shell Construction : M. S. Body and M. S. Angle"s structure with proper stiffeners and neat powder coat painting
- 3. Furnace stands & panel box : Control panel box with a door coupled with furnace stand to a height of 1 meter
- 4. Tubular material : Alumina (99.8%) (□ 60 X 70 x 1000mm) (Zero porosity and withstand up to 1800° C
- 5. Alumina content : 99.8% (minimum)
- 6. Maximum operating temperature : 1400 deg C
- 7. Tube sintered temperature : 1400 deg C for 12 hours of soaking
- 8. Porosity : 0% at RT
- 9. Permeability of Oxygen : 0% at Room temperature

- 10. Expected porosity and permeability at elevated temperature : nil
- 11. Insulation : Double Layer (Mullite and Zr blended fibers)
- 12. Fittings for controlled atmosphere : Stainless steel fittings are provided with water cooling arrangement and Viton o-ring gasket seal
- 13. Port for pulling gases and Purging gases : minimum one each required
- 14. O-ring gasketfittings : Two numbers should be fixed either side
- 15. Purging gas regulator : Special rotometer (0 to 5 liter/hour) fixed for regulating the purging gases and calibrated to oxygen
- 16. Corrosion metal holder : Made with high temperature ceramic material

HEATING SYSTEM

- 1. Heating elements : APM
- 2. Type of element : Solid type
- 3. Hot zone length : 200mm
- 4. Furnace operation : SINGLE PHASE / AC
- 5. Power : Min 4 KW
- 6. Maximum temperature : 1250 \pm C
- 7. Working temperature : 1200 \pm C
- 8. Heating rate : 1 – 10 $^{\circ}$ C/ minute

CONTROL SYSTEM

- 1. Temperature control : PID programmer and Digital Temperature Indicator
- 2. Temperature sensor : K type thermocouple
- 3. Power control : through the phase angle controlled thyrister
- t. Indications required : a) Ammeter b) Mains Indicator c) Output Indicator
- 6. Control switches : Mains on, out-put on
- 7. Safety : Input, output fuses

5.Hot Plate

Construction

- Outerbody :Powder coated M.S sheet body
- Input Voltage : 220/230 volts A.C.
- Maximum surface Temperature : Continuous heating up to 350 $^{\circ}$ C.
- Temperature Control : By thermostat
- Top : made Heavy Duty Cast Iron coated with insulating paint

- Insulation :Ceramic blanket Insulated Top .

Size : 20x20 cm square

6.Specifications of Laboratory oven

- Chamber volume capacity -80-120 liters
- Temperature- 350°C max
- Digital PID controller/w 0.1°C resolution
- Equipped with wait-off timer, alarm, auto-tuning and in-built temperature calibration function

7.Stirrer with temperature control and hotplate

Variable speed between 50-500 rpm, at 220 volts AC/DC. Stirrer Shaft 8mm. diameter.. Shaft length 12-15 inches: Shaft fitted with 4 bladed turbine impeller made of stainless steel. Speed Control Variable speed controller, mounted in a metal housing. Stirring Capacity 2 to 3 kgs of viscous liquid.Hot Plate Temperature Range- 25 -100°C

8.Magnetic Stirrer

- compact designed stirrers shall be for viscous liquid, having stainless steel top housing, and 500 ml capacity,
- Stirring shall be by a teflon coated magnetic paddle placed in the contain, with heater, supply 230 v, single phase 50 Hz.

9.Motorized Laboratory Stirrer with temperature control

- Geared Motor, 4000 rpm, at 220 volts AC/DC.
- Stirrer with Shaft 8mm. dia., and 350 mm length
- Shaft fitted with 4 bladed turbine impeller made of stainless steel.
- Speed Control Variable speed controller, mounted in a metal housing.
- Stirring Capacity 2 to 3 kgs of thick materials.
- Top Plate Temperature Range- 25 -540°C

10.Noncontact thermometer

- Must be simple, easy-to-use unit for measuring the surface temperature of non-reflective materials using infrared technology.
- Measuring range of -35°C to 365°C
- Should have a fast response, 1 second scanning of any surface.
- Capable of Measuring dimensions of objects as small as 25mm.

- Distance-to-Target Ratio of 8:1
- Should have an easy to read LCD display

11. TECHNICAL SPECIFICATIONS OF SALT SPRAY CHAMBER

-
- **Chamber**
- Capacity : 100 liters.
- Tank Temperature : Ambient to +50° C.
- Saturator Temperature : Ambient to +65° C.
- Temperature accuracy : +/- 1° C.
- Temperature resolution : 0.1° C.
- Humidity range : Above 90% RH non measurable.
- Inner chamber material : FRP non-metallic tank.
- Outer chamber material : Non – metallic, non corrosive, recyclable material polyethylene.
-
- **Atomizer**
- Provides Laminar spray with fine fog of 20-30 micron droplet size
- Shall be made of non corrosive material
- Heating system
- Shall be by Tape heaters provided all round of the FRP tank.
-
- **Saturator system**
- Saturator tank provided for generating the steam.
- Saturator :
- a. Must be non corrosive, and its temperature shall be controlled
- b. Automatic water level controller shall be provided
- c. Saturator shall be heated by Immersion heater.
-
- **Salt Solution spray:**
- Individual salt solution tank should be provided. The steam and salt solution may mix in the atomizer.
- **Solution reservoir :**
- Built in reservoir with accessibility and drain facility for maintenance.
- Temperature Controller : Microprocessor PID controller for setting of tank temperature & saturator temperature with digital display.
- a. Display of set value & actual value of temperature.
- b. Temp. Sensor : PT 100 RTD sensor
- **Safety provisions**
- 1. High temperature safety has to be provided with audiovisual warning signal for the protection of the specimen.
- 2. Over temperature protection both of the test space & saturator.: Must be there
- 3. Protection against electrical surge & spikes : Must be there

12. Ultrasonic Cleaner

- Specification: Frequency: up to 70 KHz
- Tank Size (LxWxD)cm: 50x30x19
- Heating: Yes
- Timer (minute): 1-99
- Tank Capacity (litre): 20
- Housing: Stainless Steel
- Ultrasonic Power (W): 500
- Heating Power (W): 520

13. Variable Impact tester

- It evaluates the resistance of a coating to impact (elongation, cracking or peeling).
- Base unit shall have universal assembly wherein different kits can be used to perform different tests on the coated metal sheet
- Shall have different kits for doing various tests
- There shall be an Graduated tube with engraved markings: The tube shall be clearly engraved, graduation markings in kg-cm.
- Stop collar with adjustable settings:
- Ten settings between 2mm and 15mm (0.08 and 0.60") to change the depth of impact when working in accordance with ISO Standards.
- Integrated bubble level: This is required to ensure that the tester is perpendicular for accurate results.
- **Kit 1** : Falling 1kg (2.2lb) weight with 20mm (0.78") punch – outside diameter 25mm (0.98"), stop collar, 27mm (1.06") die with fixing screw, sample clamp with two fixing screws, static indenter with 15.9mm (0.6") punch, falling 1kg (2.2lb) weight, 12.7mm (0.5") punch, 16.3mm (0.6") die with fixing screw, 3mm (0.12") and 4mm (0.15") hexagonal wrench. Can be used in accordance with: ISO 6272:1993, ISO 6272-2:2002
- **Kit 2** :

14. Thermostatic Water Bath

- ✚ **Construction** : three walled heating units
- ✚ SS 304 grade stainless steel of heavy gauge inner chamber. Inner chamber dimensions Width 6"x length 12" and height 6"
- ✚ **Heating**:
by air heaters made of Kanthal A-1 wires for indirect heating. The warm air has to

be evenly distributed within the chamber via natural water convection mechanism ensuring very good temperature sensitivity.

- ✚ **Temperature Range:** 30 to 90 °C.
- ✚ **Temperature sensitivity** $\pm 0.5^{\circ}\text{C}$
- ✚ **Front Panel to have** on/off switch, heating and mains indicator lamps, thermostat

7. General Requirements & Qualification Criteria

- Bidding Firm offering the product should have ISO 9001 Accreditation certification.
- Bidding Firm, offering the product, should have supplied similar type of test systems for a several years to Government establishments, defense organizations & National higher learning institutions like IITs, IISc etc., in India
- Bidding Firm offering the product should submit list of supplies made by it, during last two years with complete contact details of the end users such as phone number, fax number, e-mail ID etc. It should submit copies of order placed by such organizations and user certificates for goods of same/similar nature.
- Bidding Firm offering the Product should have a Local Service Support Facility, preferably in Hyderabad, and should submit address and contact details
- Bidding Firm should give an Undertaking that, an interrupted service support will be given for a minimum period of 10 years with unbroken availability of spares supply.
- Bidding Firm should give an undertaking that, the Software upgrades if any, during the warranty period of three year, should be supplied free of charge
- Bidding Firm should offer pre-dispatch inspection free of charge at their factory premises for 2 users for 3 days and post installation training at our three laboratories in different campuses to 2 users for 5 days.

NOTE

A complete set of bidding documents may be purchased by interested bidders from the RGUKT contact person upon payment of the bid document price which is non-refundable. Payment of bid document price should be by demand draft/ cashier's cheque or certified cheque drawn in favour of "Registrar, Rajiv Gandhi University of Knowledge Technologies" and payable at Hyderabad (India).