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**Tender notification for the procurement of an Isothermal calorimeter for measuring heat of hydration of cement paste and similar material**

Last date of submission: 22 December 2021

Kindly send your best quotation for an “Isothermal calorimeter” with the technical specifications/general compliance mentioned below. Please note the following:

1. Quote should come **only from Foreign/ International Original Equipment Manufacturer (OEM) or their Indian authorized distributor.**
2. The quotations should be on FOR-IISc Bangalore basis in INR only

**Procedure:**

1. The tenderer should submit the technical and financial bids separately in sealed envelopes superscribing the envelopes as ‘Technical bid’ and ‘Financial bid’. Both these envelopes must be put into a single envelope, superscribed ‘TENDER FOR: ISOTHERMAL CALORIMETER’. This should reach the following address by 4 PM on 22 December 2021.

The Chair,  
Centre for Sustainable Technologies  
Indian Institute of Science,  
Bengaluru, Karnataka - 560 012  
Contact: +91(80)2293 2447

Attn: Dr. Souradeep Gupta

**Soft copies** are to be mailed to [souradeep@iisc.ac.in](mailto:souradeep@iisc.ac.in) with the subject line ‘TENDER FOR: ISOTHERMAL CALORIMETER’

2. The technical proposal should contain a technical compliance table with 4 columns.

- a. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
  - b. The second column should provide specifications of the instrument against the requirement (please provide quantitative responses wherever possible).
  - c. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
  - d. The fourth column can contain additional remarks. Vendors can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details.
3. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors
  4. In the commercial bid, please provide itemized cost of the system and required accessories, such as software, power supply, etc.

### **Terms and conditions:**

1. The decision of the purchase committee is final.
2. The tenderer is required to carry out full testing and demonstration of the isothermal calorimeter's performance at Indian Institute of Science, along with training the representative(s) from the institute on the operation and some sample testing for acceptance. All guaranteed specifications will have to be demonstrated, upon request, in an active installation. Failure to demonstrate any promised specifications will be deemed as technical non-compliance.
3. The tenderer has a track record of supplying similar equipment to at least two other organizations in India. **Relevant documents including user testimonial** on product performance/maintenance shall be furnished.
4. Clarify if periodic (preventive) maintenance be done by a trained on-site engineer or requires a specialist from the OEM. The vendor should have qualified technical service personnel for the equipment based in India and must assure a response time of <2 business days after receiving a service request.
5. The lead-time for the delivery of the equipment should not be more than 2 months from the date of receipt of our purchase order.
6. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason.
7. The validity of the quotation shall be 12 weeks.

### **Technical specifications:**

1. The isothermal calorimeter would be used to measure rate of hydration heat evolution due to reaction of cement-based materials, including cement and supplementary admixtures, with water.
2. The calorimeter must have eight (8) channels and can be used with 20 ml glass ampoules

3. The calorimeter must be equipped with an air thermostat and a data logging system. The thermostat should have a measurement range of 5 to 90°C.
4. Temperature Accuracy:  $< \pm 0.15$  K
5. Provisions to measure heat of hydration for mortar and concrete sample with the same thermostat shall be provided.
6. 450 numbers of disposable glass ampoules, 500 lids, crimping tools and eyelets are to be provided.
7. A computer system, compatible with the machine software, and following specification should be provided: 8 GB RAM, 1 TB HDD, i5 processor, Keyboard, Optical Mouse, 6USB Ports, 19" TFT Screen, Deskjet Colour Printer, UPS.
8. A UPS system for the Isothermal calorimeter designed for at least two hours of back-up shall be provided by the vendor.

**Other requirement:**

1. IISc required two (2) years complete warranty from the date of installation for all parts of the isothermal calorimeter.
2. IISc will not pay additional for installation and training. All such costs are to be considered in the base price.
3. IISc will expect acceptance tests, post installation. These can be recorded in the presence of representatives of the OEM. Inability to pass these tests will be counted as a technical failure and breach of contract.
  - a. Testing with at least two cement paste samples for demonstration.
  - b. Demonstration of inputs in the software for accurate measurement of the heat of hydration
  - c. Demonstration of measurement of hydration heat and cumulative heat evolution

Thanking you,

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