



Indian Institute of Science, BANGALORE 560 012

Centre for Sustainable Technologies

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Date: 01.09.2023

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Ref: IISC/CST/2023/TF

Tender notification for the procurement of a computer controlled universal testing machine

Last date of submission: 22 September 2023

Kindly send your best quotation for a “**Computer controlled universal testing machine**” with the technical specifications/general compliance mentioned below. Quote should come only from **Indian Original Equipment Manufacturer (OEM), fabricator or their Indian authorized distributor. Resellers shall not participate.** The quotations should be on FOR-IISc Bangalore basis in INR. The Bidder should belong to either Class-1 or Class-2 suppliers distinguished by their “local content” as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter. a) Class-1 supplier: Goods and services should have local content of equal to or more than 50%. b) Class-2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to the Class-1 supplier.

MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.

Technical specifications

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: **Computer controlled universal testing machine**’. This should reach the following address by 4 PM on 22 September 2023.

Attn: Dr. Souradeep Gupta
Room: 209, Centre for Sustainable Technologies annex
Indian Institute of Science,
Bengaluru, Karnataka - 560 012

Ladmark: Sri Maramma temple gate of IISc, Malleshwaram

2. The technical proposal should contain a technical compliance table with 4 columns.
 - a. The first column must list the technical requirements and other requirements, in the order that they are mentioned 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. You 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.

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 machine’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 three other organizations, preferably 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 less than **2 business days** after receiving a service request.
5. The lead-time for the delivery of the equipment should not be more than 2 weeks from the date of receipt of our purchase order unless otherwise negotiated by IISc.
6. The indenter reserves the right to withhold placement of final order, 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 at least 12 weeks.
8. Selected vendor must register with IISc (free registration) if not already registered. As per purchase policy, purchase orders can be raised only to registered vendors.
9. Payment will be processed once satisfactory on-site testing and demonstration have been conducted. The vendor must furnish a delivery report countersigned by representative from IISc.

Technical specifications of the test frame:

- a. Load capacity of 10 kN measured by precision load cell. Least count for load measurement (resolution) shall be between 2.50 - 8 g. Accuracy shall be $\pm 1\%$.
- b. Crosshead traverse between 900 – 1000 mm shall be provided.
- c. Working width shall be at least 400 mm.
- d. Upper and lower limit working switches shall be provided.
- e. Height shall be limited to 1.80 m. The machine should be floor-standing type without requiring intensive foundation work.
- f. Crosshead movement rate of 0.0008 – 8 mm/s. This shall be controllable by the machine software from computer.
- g. Resolution of cross-head displacement shall be 0.001 mm and accuracy of $\pm 1\%$.
- h. The type of drive motor shall be servo electric.
- i. Overload protection must be included.
- j. Set of compression platen of $\varnothing 150\text{mm}$ and requisite thickness for 10 kN loading (if upgraded in the future).
- k. Set-up for non-contact based lateral deformation measurement shall be included (for example, imaging, laser-based measurement etc) with measurement accuracy of ± 0.01 mm.
- l. The vendor is also required to supply a new compatible PC to run the machine software. The vendor is responsible for installing the software, integrating it with the machine and demonstrate smooth operation.
- m. Power supply: 3-pin, single phase 220 V

Software & computer

- a. 64-bit windows computer (4 GB RAM, 500 GB HDD) with UPS shall be provided.
- b. Latest material testing software with data acquisition, control and analysis tools shall be offered.
- c. Compatibility with latest 64bit Windows OS
- d. Real time display of data and curves
- e. Multiple graphs like load vs deflection, load vs time, deflection vs time etc. on single test screen and test report.
- f. Raw data in .csv format must be transferrable from the software.
- g. Auto and manual report generation in excel, xml, pdf format.
- h. Loadcell overload and crosshead overtravel protection
- i. Data must be transferrable using USB.

Other requirements:

1. The OEM/vendor shall preferably have service personnel available in Bangalore or nearby cities. Any issue with the machine or accessories must be resolved within 3 – 4 days.
2. The vendor must do due diligence check on all the features of the machine, load cells, power supply, computers and other accessories before delivery. The vendors shall not

expect support from IISc for troubleshooting any issue after delivery/during installation.

3. IISc requires at least four (4) years complete warranty from the date of installation for all parts of the machine including computer. Vendors providing longer warranties within a competitive price will be given preference.
4. The vendor must make necessary logistical arrangement for shipping, unloading at the lab premise without any damage, commissioning and installation of the machine in the presence of a competitive representative from the vendor.
5. Demonstration and training must be carried out within two days of delivery by competitive personnel from the OEM. IISc will not pay additional for such training/demonstration.
6. IISc will expect acceptance tests, post installation. These can be recorded in the presence of representative(s) of the vendor and staffs from IISc. Inability to pass these tests will be a counted as a technical failure and breach of contract.

Thanking you,
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