

Tender Notification for the procurement of a “Mini-Mechanical Tester with High Temperature Accessories” at IISc (Last Date for submission of tenders: 14/12/2018)

Dear Sir/Madam,

Kindly send your best quotation for the following item on CIF Bangalore basis. Your quotation should clearly indicate the terms of delivery, delivery schedule, E.D., payment terms etc. The tender should be submitted in two separate sealed envelopes - one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 17:00 hours 14th December 2018. Please enclose a compliance certificate along with the technical bid.

Item	Mandatory requirement	Optional requirement
Available testing modes	<ul style="list-style-type: none">Tension, compression and flexure under quasi-static condition under load and displacement controlledCreep (constant load test) and stress relaxation (constant strain)Creep ruptureSingle software package for performing all tests	<ul style="list-style-type: none">Constant true strain rate testsConstant true stress testsStress and strain rate jump testsLow cycle fatigue
Maximum gauge length (l x w x h)	$\geq 25 \text{ mm} \times 10 \text{ mm} \times 10 \text{ mm}$	
Load Specifications		
Maximum load	5 kN	
Accuracy	0.5 % or better between 50 N and 5 kN	
Additional load cells	500 N	
Load cell changing	Does not require sending the equipment to factory or service center; could be done by trained professional on the site	Students of IISc should be trained to change load cells on their own
Displacement Specifications		
Maximum	$\geq 100 \text{ mm/min}$ (or $> 1.5 \text{ mm/s}$)	

displacement rate		
Minimum displacement rate	$\leq 1 \mu\text{m}/\text{h}$ (or $< 0.3 \text{ nm/s}$)	
Accuracy: Displacement rate	$\leq 0.1 \%$ of set displacement rate	
Maximum displacement	$\geq 70 \text{ mm}$	
Resolution: Encoder	$\leq 0.05 \mu\text{m}$	
Temperature Specifications		
Maximum Temperature	1000 °C	>1200 °C
Temperature stability	<ul style="list-style-type: none"> • $\pm 1 \text{ }^\circ\text{C}$ between 350 °C and 1000 °C • $\pm 2 \text{ }^\circ\text{C}$ between 200 and 350 °C • $\pm 3 \text{ }^\circ\text{C}$ between room temperature and 200 °C 	<ul style="list-style-type: none"> • $\pm 1 \text{ }^\circ\text{C}$ between room temperature and maximum temperature
Furnace	<ul style="list-style-type: none"> • 3-zone furnace with 3 independent controllers • Height of hot zone: $> 100 \text{ mm}$ • Uniform temperature zone: $> 70 \text{ mm}$ • Viewing port (Quartz or appropriate high temperature material) • Minimum size of viewing port: 30 mm \times 10 mm • Should be swung out if not needed. 	
Temperature measurement independent of temperature controller	Yes (at least 2 thermocouples)	
Displacement Measurement		

Non-contact mode	Video extensometer for overall uniaxial strain measurement	2-D strain field/ DIC
Resolution	$\leq 0.25 \mu\text{m}$	$0.1 \mu\text{m}$
Accuracy on readings	$\leq 0.5 \%$ of reading	
Minimum gauge length	$< 1.5 \text{ mm}$	
Data acquisition	$\geq 50 \text{ Hz}$	
Largest gauge length	$> 25 \text{ mm}$	
Stability period	$> 1 \text{ week}$	
Note: CCD Megapixel should be mentioned; Resolution: It should be mentioned if it is actual or interpolated value; A shutter for quartz window may be provided for allowing intermittent measurement and protecting the camera from radiation.		
Other Specifications		
Drive motor	Should not be a stepper motor	AC motor
Grip	One high temperature grip for a flat sample with gauge length of 1.5 - 25 mm and cross-section of gripping area of 1-10 mm (width) \times 0.1-5 mm (thickness)	Additional high temperature grip for a cylindrical sample with grip area diameter of 0.1-5 mm and gauge length of 1.5-25 mm; Room temperature flat grip with same specification
Maximum duration of creep test	Up to 10,000 h at all temperatures	
Alignment tool	A mechanism for checking and fixing alignment	
Service and other items	<ul style="list-style-type: none"> Company must have a service and training center in India Company must guarantee 10 years of continued support and service even after the discontinuation of the 	

	supplied model.	
Installation specifications	<ul style="list-style-type: none"> Site preparation; and power and other requirements should be clearly mentioned Should be specified 2 months in advance 	
Shipping	CIF Bangalore	
Acceptance criterion	Successful installation and demonstration of all specifications mention above	
Consumables	<ul style="list-style-type: none"> Consumables and their cost should be mentioned clearly Cost of same should be fixed for a period of 3 years 	
Warrantees	12 months after installation	36 months after installation
AMC (Optional)	Cost of AMC for 24 months after completion of warranty should be mentioned	
Payment terms	Through LC (80 % upon order confirmation and 20 % after successful installation or 30 days whichever is earlier)	Through LC (80 % after receiving the equipment and 20 % after its acceptance)

TERMS & CONDITIONS

- Two-bid system (separate technical and financial bids) in sealed tenders.
- The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under the above subheads. Unique characteristics may be highlighted. Vendors who include price information in the technical bids will be automatically disqualified.
- Technical bids will be opened first. IISc may seek clarifications after opening of technical bids and may ask them to perform some example experiments on the sample given by IISc to demonstrate the promised technical specifications. Vendors may be required to

give presentations. There are several items that require information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.

4. Price bids of only technically qualified vendors will be considered, and the vendors will be informed the day of opening the price bids.
5. The price bids must offer CIF Bangalore prices.
6. Prices to be quoted separately for baseline system and options. Prices should be quoted in adequate detail with relation to packing details to cover insurance compensation in case of damage to any specific modules
7. Indicate separately price of spares listed above in terms of unit cost. The price of these spares will be included in the price comparison. Any additional spares recommended by the company will be considered for ordering but not included in the comparison. The buyer reserves the right to make the final decision on ordered spares.
8. Indicate price for annual maintenance contract.
9. Indicate delivery period
10. Order will be placed on lowest bid from technically qualified vendor
11. The tender documents can be sent at the following address:

The Chairman

(Attn: Dr. Praveen Kumar)

Department of Materials Engineering

Indian Institute of Science, Bangalore 560012

Karnataka (INDIA)