

Tender Enquiry No: IIITDMK/24-25/SP/100kNDTS/006 Dt25/07/24



# **Tender (E-Procurement Mode)**

# For

# Supply and Installation of 100kN Dynamic Test System



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# **Notice Inviting E-Tender (E-Procurement Mode)**

Date: 25.07.2024

IIITDM Kancheepuram is intent to procure in E-Procurement of the articles mentioned below as per the terms and conditions attached. Please submit your bid documents on <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> as per the due date and time.

| Item              | : | Supply and Installation of 100kN Dynamic Test System (Specification/Quantity details enclosed as Annexure-1)      |
|-------------------|---|---|
| Tender Enquiry No | : | HITDMK/24-25/SP/100kNDTS/006 Dt25/07/24   |
| EMD               | : | Payment proof for EMD of Rs.3,90,000/- or valid MSME Registration Certificate for EMD exemption must be attached. |

#### **CRITICAL DATE SHEET**

| STAGE                          | DATE & TIME                              |
|--------------------------------|--|
| Bid Submission End Date & Time | 26 <sup>th</sup> August 2024 - 15:00 HRS |
| Bid Opening Date & Time        | 27 <sup>th</sup> August 2024 - 15:30 HRS |

#### **NOTE:**

- 1. The bidder should be a Class-I / Class-II Local Supplier meeting the requirement as per the Order No. P-45021/2/2017-PP (BE-II) issued by the Public Procurement Section, DPIIT, Ministry of Commerce and Industry, GOI dated 16-09-2020.
- 2. Bidders other than Class-I / Class-II Local Suppliers will not be considered and bids will be rejected outright.

#### **Important:**

All communications are to be addressed to in the name of The Registrar, IIITD&M Kancheepuram only and not in the name of any officer and mails has to be sent to official purchase email id <a href="mailto:purchase@iiitdm.ac.in">purchase@iiitdm.ac.in</a>



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#### **Terms and Conditions**

1. The Bidders are requested to give detailed tender in two bid format.

Bid-I : Technical Bid Bid-II : Commercial Bid

- 2. The tender document can be downloaded from the CPPP Portal <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>. The duly filled tenders should be submitted **on or before** due date 15.00 HRS, 26<sup>th</sup> August 2024. Extension of due date will not be entertained. The instruction regarding e-bidding is enclosed.
- 3. Tenders submitted without following the two bid offer system will summarily be rejected.

#### 4. Bid -1: Technical Bid

The online Technical bids should be uploaded containing the scanned copy of the following documents in (.pdf file)

- I. The technical bid compliance sheet & Eligibility Criteria (Annexure-1)
- II. Payment proof for EMD of Rs.3,90,000/- or valid MSME Registration Certificate for EMD exemption. (Annexure-2)
- III. Declaration of Local Content (Annexure-3)
- IV. Authorization Letter from OEM (As Annexure-4)
- V. Experience Certificate: Should have Supplied Two similar equipment (each costing Rs.1.00 Crore and above or equalent foreign currency) to reputed organizations/ research institutions/ Universities etc. in India on or after 1/1/2017 (PO copies to be enclosed) (Annexure -5)
- VI. Item Description Leaflet. (Annexure-6)
- VII. Bids should have a validity of **90 days.** The technical offer should not contain any information on price.

#### **Important:**

The Technical bid consisting of all annexures and other documents should be serially numbered and to be uploaded as a single pdf file and the page number details has to be furnished in the compliance sheet. The total number of pages uploaded to be mentioned in the relevant column.

#### **Earnest Money Deposit:**

Bidders shall Deposit EMD in the following bank. The amount must be through online
mode and it shall be received on or before the last date and time of bid submission and the
payment proof of EMD shall be attached along with the technical bid. No other mode of
payment is accepted.

#### Steps for submission of EMD through SBI E'Collect.

- Go to link https://www.onlinesbi.sbi/sbicollect/icollecthome.htm
- Please select category as "Educational Institutions"
- Please select "IIITDM KANCHEEPURAM A/C" from drop down list
- Please select "Earnest Money Deposit (EMD)" from Payment Category drop down list
- Kindly fill all tender details, contact details, EMD amount and make payment.
- After successful payment, the payment proof of EMD shall be attached along with the technical bid.



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- In the case of payment failure/ mismatch of particulars leads to cancellation of bid.
- For the successful bidder, the EMD will be retained/adjusted against the security deposit.
- For the unsuccessful bidders, EMD amount will be refunded within 30 days from the date of issue of work order.
- > The bidder shall enclose cancelled cheque/bank details to refund the EMD amount in case of unsuccessful bids.
- EMD shall be forfeited if any tenderer withdraws their offer within the bid validity period.
- ➤ In case of bidder with MSME exemption, valid proof shall be uploaded for to waive off the EMD.

#### 5. Bid-2: Commercial Bid / Price

- i. The Institute is exempted from custom duty (as applicable to Research Institutes/University) vide Custom notification no. 51/96 dt 23.07.1996 based on the DSIR notification in this regard.
- ii. The Price may be quoted in INR only.
- iii. The price quoted should be for FOR Destination at IIITD&M Kancheepuram, Melakkottaiyur, Off Vandalur-Kelambakkam Road, Chennai 600 127.
- iv. The packing, forwarding, freight, insurance and commissioning charges, if any extra may be quoted separately in commercial bid.
- v. This should contain only the price information along with commercial terms & conditions.
- vi. Submission of commercial bids by any other means shall not be accepted by the Institute in any circumstances.
- vii. Online submission of the bid will not be permitted on the portal after expiry of submission time and the bidder shall not be permitted to submit the same by any other mode.
- viii. The Institute is Government Funded Educational Institution offering UG/PG and PhD programmes. The Item is required for student laboratory purpose and prices may be quoted at applicable "Academic Pricing".

#### 6. Technical Evaluation

All the technical aspects of the bids will be evaluated by a committee constituted by the Director. Further, the institute may verify from the end users specified in the technical bid about the execution and satisfactory functioning of the item quoted if required.

#### 7. Opening of Commercial Bids

IIITD&M Kancheepuram will open commercial bids of only the shortlisted bidders after technical evaluation.

#### 8. Make in India Policy

1. This Institute is following and will abide with the Public Procurement (Preference to Make in India), Order 2017 issued from time to time. The Institute will award the Contract to the Bidder whose bid has been determined to be substantially responsive as per the Order No. P-45021/2/2017-PP(BE-II) dated 16- 09-2020 from Department for Promotion of Industry and Internal Trade (Public Procurement Section), Ministry of Commerce and Industry, Govt. of India.



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- 2. The bidder should be a Class-I / Class-II Local Supplier meeting the requirement of minimum 20% Local Content in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP(BE-II) dated 16-09-2020.
  - i. Class I local supplier has local content equal to more than 50%
  - ii. Class II local supplier has local content 20% to less than 50%
- 3. Further among all technically qualified bids during the price evaluation the lowest bid will be termed as L1. If L1 is Class I local supplier the contract will be awarded to L1. If L1 is not Class I Local supplier the lowest bidder among the class I local supplier will be invited to match the L1 price subject to class I local supplier quoted price falling within the margin of purchase preference and the contract shall be awarded to such class I local supplier subject to match the L1 price. In case the lowest eligible class I supplier fails to match the L1 price, the class I local supplier with next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and the contract shall be awarded accordingly. Incase none of the class I local supplier within the margin of purchase preference matches the L1 price the contract shall be awarded to the L1 bidder (Class II Local supplier). Class II Local supplier will not get any purchase preference.
- 4. The margin of purchase preference for Class I local supplier is 20% from L1 price (without tax).

#### 9. **Delivery Period / Timelines**

The deliveries and installation must be completed **within 08 weeks** from the date of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet this expectation, as this is linked to student's Labs / classes.

#### 10. Supply & services

- i) The items covered by this document is required to be supplied and installed at **Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, Off Vandalur-Kelambakkam Road, Melakkottaiyur, Chennai 600 127, Tamil Nadu.**
- ii) IIITD&M Kancheepuram will not provide any accommodation / transportation for the engineers / representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the principal supplier / agent to make their own arrangements.

#### 11. Restriction on Purchase on Grounds of Defense of India

The Institute follows Ministry of Finance and Department of Expenditure OM No.6/18/2019-PPD dated 23<sup>rd</sup> July 2020 and subsequent order dated 23<sup>rd</sup> July 2020 which are binding and the evaluation will be done accordingly.



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#### 12. Installation

- i) Bidder shall be responsible for installation / demonstration as applicable and for after sales service during the warranty and thereafter.
- ii) Installation and demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site.

#### 13. Warranty / Support

- i) The items supplied shall carry the warranty as per the requirement mentioned in the technical specification.
- ii) The defects, if any, during the guarantee / warranty period are to be rectified free of charge by arranging free replacement wherever necessary.

#### 14. **Indemnity**

The vendor shall indemnify, protect and save IIITD&M Kancheepuram against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc., or such other statutory infringements in respect of all the items supplied by them.

#### 15. Freight and Insurance

The items to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IIITD&M Kancheepuram site.

#### 16. Payment

100% payment after delivery, installation and acceptance by IIITD&M on submission of Bank Guarantee for an equivalent value of 3% of PO value valid till warranty period plus 2 months

#### 17. Penalty for delayed services / LD

- i) As time is the essence of the contract, delivery period mentioned in the purchase order should be strictly adhered to. Otherwise LD clause will be applied / enforced.
- ii) If the supplier fails to supply, and fix the item as per specifications mentioned in the order within the due date, the supplier is liable to pay liquidated damages of 1% of order value for delay of every week or part thereof subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
- iii) IIITD&M Kancheepuram reserves the right to cancel the order in case the delay is more than 04 weeks and the contractor is not eligible for any damage from the Institute and contractor will forfeit his claim for EMD.

#### 18. Jurisdiction

The disputes, legal matters, court issues, if any, shall be subject to Courts in the district of Chengalpattu Jurisdiction only.



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### 19. Force Majeure

- a) IIITD&M Kancheepuram may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the contract, is the result of a force majeure.
- b) If the due date of submission of tender / tender opening is declared a holiday for the Institute, the due date for submission of tender / tender opening will be extended to same time on next working day.

#### 20. Arbitration

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc., shall be referred by either party (IIITD&M Kancheepuram or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute and will be referred to the arbitrator to be nominated by Director, IIITD&M Kancheepuram, India. The Venue for arbitration shall be Chennai, India.

#### 21. Acceptance of the terms and conditions of tender document

The bidder has to accept all the terms and conditions of this tender document and it is made known that the bidders quoting for this tender had impliedly accepted the terms and conditions of this tender.

#### 22. Interpretation of the clauses in the Tender Document

In case of any ambiguity / dispute in the interpretation of any of the clause in this tender document, interpretation of Director, IIITD&M Kancheepuram shall be final and binding on all parties. The IIITD&M Kancheepuram reserves the right to accept the offer in full or in parts or reject the offer summarily or partly without assigning any reasons.

#### 23. Integrity Clause

No official of a procuring entity or a bidder shall act in contravention of the codes which includes prohibition of making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.

24. The competent authority reserves the right to either accept or reject the tender without assigning any reason.

Sd/-

कुलसचिव / Registrar IIITD&M Kancheepuram



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# **ANNEXURE-1**

### TECHNICAL BID

**Technical Compliance Sheet** (to be filled and uploaded)

| Nam             | ne of the  | Age   | ency   |   |                           |                                |         |
|-----------------|------------|---|--|---|---------------------------|--------------------------------|---------|
| Offic           | ce Addr    | ess:  |  |   |                           |                                |         |
| Nam             | ne and M   | Iobi  | ile No. of contact person:   |   |                           |                                |         |
| ITI             | EM: S      | Sup   | ply and Installation of 100kN D  | ynamic T  | est Syste                 | em                             |         |
| $(\mathbf{Q}')$ | ΓY: 0      | 1 N   | <b>No</b> )  |   |                           |                                |         |
| SI<br>No        | Item       |   | Description  | Specification   | Compliance<br>Yes/No/N.A. | Deviation<br>(If Any)          | Remarks |
|                 |            | •   | Load frame capacity  | ±100 kN   |                           |                                |         |
|                 |            | •   | Column spacing   | ≥ 500mm   |                           |                                |         |
|                 |            | •   | Vertical daylight  | ≥1200mm   |                           |                                |         |
|                 |            | •   | Stiffness of the frame   | ≥ 600 MN/m  |                           | iance Memarks (If Any) Remarks |         |
|                 |            | •   | Fatigue actuator rating  | ±100 kN   |                           |                                |         |
|                 |            | Position accuracy     Imicrons     Maximum stroke     150mm |  |   |                           |                                |         |
|                 |            |   | Maximum stroke   | al daylight  ≥ 500mm  ≥ 1200mm  ≥ 600 MN/m  the actuator rating  ± 100 kN  sition accuracy  aximum stroke  (±75mm)  perating pressure  ctuator shall be configured with suitable valves to perform Tensile test as per (ASTM STM E9, ASTM D3039), LCF test as per M E1820, ASTM E399) and Fracture unics test as per ASTM E647. |                           |                                |         |
|                 | ıme        |   | <ul> <li>Operating pressure</li> </ul>   |   |                           |                                |         |
| 1               | Load Frame | •   | The actuator shall be configured with suitable servo valves to perform Tensile test as per (ASTM E8, ASTM E9, ASTM D3039), LCF test as per ASTM E606, Fracture toughness test as per (ASTM E1820, ASTM E399) and Fracture mechanics test as per ASTM E647. |   |                           |                                |         |
|                 |            | •   | Overload capacity: 150% of read capacity, Non-linearity: ±0.3% of full scale, Accuracy: ISO7500-1 Class 0.5, Resolution: 0.02% of Full-Scale Reading.  The top cross head movement is hydraulically  | ±100 kN   |                           |                                |         |
|                 |            | •   | operated to position it with different grips and specimen length before starting the test. A hydraulically operated de-clamp cylinder needs to be enabled to move the top crosshead.   |   |                           |                                |         |



|   |                        | • Touch screen operated tablet for basic operations of the machine – switching the power pack On/Off, Clamp and De-Clamp of the top cross head, Moving the crosshead up and down, moving actuator up and down to mount the specimen.  Automatic specimen protect feature for easy  |             |
|---|------------------------|--|-------------|
|   |                        | mounting with hydraulic tensile grip.  |             |
| 2 | Power pack             | The Hydraulic power unit should be used to meet the below dynamic performance.  Frequency Load Amplitude (Hz) (%) (mm)  1 0 20  40 0 0.1  1 50 15  30 50 0.09  1 100 9  10 100 0.5  Variable frequency drive based control hardware to achieve energy efficient flow control  Touch screen based tablet to be used for power pack operation.  10 micron return line filter with electric interlock.  Pressure transducer for power pack pressure sense and temperature sensor.  All the safety interlocks on the power pack to be monitored on the touch screen panel.  All the accessories like hoses, oil filling pump and hydraulic oil to be included in the supply. |             |
|   |                        | Digital encoder channels for actuator position measurement.  | 1 channel   |
| 3 | Digital control system | <ul> <li>Up to 8 channels of conditioned analog inputs with suitable signal conditioners including:         <ul> <li>1 channel of Load cell input</li> <li>2 channels of Strain input for Crack Opening Displacement transducer and extensometer.</li> <li>5 Spare Channels.</li> </ul> </li> </ul>  |             |
| 3 | ıntı                   | Loop update frequency  | up to 5 kHz |
|   | ) o                    | digital I/O Logic drive and sense lines.   | 8           |
|   | ita                    | Auto identification of transducers.  |             |
|   | Dig                    | <ul> <li>Synchronized data acquisition into host computer at 5 kHz from up to:</li> <li>1 channels of 32-bit digital encoder readouts</li> <li>8 channels of 24-bit analog feedback readouts</li> <li>1 channel of Set Point</li> <li>1 channels servo-output for monitoring purposes</li> </ul>   |             |



|   |   |                            | of digital I/O status for time tagged device and control at 1 kHz data acquisition rate |  |  |
|---|---|----------------------------|---|--|--|
|   |   | • User se                  | ettable software safety limit interlocks on   |  |  |
|   |   |                            | and lower limit readout on each of 2+8  |  |  |
|   |   | feedba                     | ck channels with individual option of   |  |  |
|   |   | Stop/H                     | [old/Trip   |  |  |
|   |   | • Servo                    | control of actuator with user   |  |  |
|   |   |                            | e/programmable:   |  |  |
|   |   |                            | control(Load, Stroke, Strain)   |  |  |
|   |   | Real-ti                    | 1   |  |  |
|   |   |                            | ment to account for system stiffness  |  |  |
|   |   |                            | on as a function of specimen stiffness  |  |  |
|   |   |                            | ramping of Load / displacement/ strain dependently settable ramp rate.                  |  |  |
|   |   |                            | loading with ramp/sine waveform and   |  |  |
|   |   | •                          | ettable mean, amplitude and phase at  |  |  |
|   |   |                            | ncy of up to 50 Hz and restricted as per the  |  |  |
|   |   |                            | or performance curve, with better than 2%   |  |  |
|   |   | accurac                    | cy in loading through adaptive control.   |  |  |
|   |   |                            | on for multi-step static and cyclic loading,  |  |  |
|   |   |                            | provision to switch control mode(s) as  |  |  |
|   |   | require                    |   |  |  |
|   |   |                            | ettable error limit on servo-control with of Stop/Trip                                  |  |  |
|   |   |                            | computer with Windows 10 or higher  |  |  |
|   | version                                     |                            | of operating system and suitable  |  |  |
|   |   |                            | ation software for ease of performing tests   |  |  |
|   |   | under                      | specified conditions with provision for   |  |  |
|   |   |                            | generation by way of multiple worksheet   |  |  |
|   |   |                            | bles including raw data arranged suitably as  |  |  |
|   |   |                            | ns for individual channels.   |  |  |
|   |   | easy ac                    | ardwired E-Stops, located on the frame for  |  |  |
|   |   | •                          | guarantee safe shut down and unloading  |  |  |
|   |   |                            | event of power failure  |  |  |
|   |   |                            | Fatigue Test, Static or Monotonic   |  |  |
|   | ıre   | •                          | test, Multistep programming and   |  |  |
|   | twa   | are                        | Time History (Custom  |  |  |
|   | jos   | oftw                       | Waveform) generation.   |  |  |
|   | tion  | n Sc                       | Test can be done in Stroke, Load and COD/Extensometer control                           |  |  |
|   | icat<br>sage                                | ıtio                       | modes.  |  |  |
| 4 | Applicatio<br>packages                      | lice                       | Display meters for current  |  |  |
|   | A - :                                       | App                        | readouts, max-min readouts, peak  |  |  |
|   | rok   | Basic Application Software | valley readouts, set point and cycle  |  |  |
|   | Controls - Application software<br>packages | Ba                         | counters. Display of time history   |  |  |
|   | C   |                            | graph and X-Y plots.  |  |  |
|   |   |                            | <ul> <li>Muti-channel option available.</li> </ul>                                      |  |  |



|  | <ul> <li>Option to program safety interlock for load, displacement and COD/Extensometer.</li> <li>Data recording collects time and/or peak-valley data to binary formats.         Data is then exported to MS Excel/text format where report generation and graphs are available with play back option.     </li> <li>Data reduction options available in real time data logging and also during data exporting</li> </ul> |
|--|--|
| are  | <ul> <li>Tests can be done in stroke or strain control.</li> <li>Online graphs of stress vs strain and</li> </ul>  |
| oftw<br>9  | load vs displacement.  |
| on s   | Option to save the test profiles.  |
| STN  | Auto data acquisition settings   |
| pplic  | Option to view multiple test graphs  |
| st ag  | in one plot.   |
| 1 tes  | Option to run test in dual rate.   |
| Sion   | Option to remove the extensometer  |
| ompres<br>ASTM   | and continue the test in stroke control.   |
| and Compression test application so as per ASTM E 8M and ASTM E9               | Option to stop the test after specified percentage load drop.  |
| Tensile and Compression test application software as per ASTM E 8M and ASTM E9 | Limit settings on stroke, strain and load channels.  |
| Ţ  | Offline post processing program to analyze the results in MS Excel.  |
| ОО   | Tests can be done in stroke or COD   |
| CTO  | control.   |
| •  | Real time graphs of J vs. Delta-a  |
| & & .11820   | and load vs. displacement  |
| J <sub>1c</sub><br>M E1  | Option to save the test profiles   |
| K <sub>1c</sub> .  | Auto data acquisition settings   |
| X X  | Auto scaling of graph  |
| for  | Option to see J and Delta-a value  |
| SS<br>Tre a  | online   |
| <br>hne<br>twa   | Option to select the previous data   |
| toughness<br>n software<br>399   | file and export the data   |
| 9 9  | Data file storage in same settings file.   |
| Fracture<br>Applicat<br>ASTM E   | Option to stop the test after  |
| F 4  | specified percentage load drop.  |



|  | Offline post processing program to  Offline post processing program to  Offline post processing program to |
|--|--|
|  | analyze the results in MS Excel  |
|  | Tests can be done in constant load   |
|  | control, K control, decreasing K   |
|  | control, delta K control etc. and  |
|  | combination of these with multiple   |
|  | steps.   |
|  | Option to program multiple steps   |
|  | with different loading conditions  |
|  | and different frequency  |
|  | Online graphs of da/dN, load vs.   |
|  | COD, crack length vs cycles, K vs  |
|  | cycles, etc.   |
| 74   | Online display of crack length,      When Marin dala K. Danas Barin.                                       |
| E6   | Kmax, Kmin delta K, Pmax, Pmin,  |
| I.M  | delta P, da/dN, etc  |
| AS.  | Option to stop the test at specified crack length, crack increment,  |
| per  | Kmax, cycles etc.  |
| as ]   | Option to do variable amplitude test   |
| are  | using Twist, Falstaff, etc. spectrum   |
| oftw   | files  |
| on sc  | Option to save the test profiles   |
| catic  | Auto data acquisition settings   |
| Fracture mechanics application software as per ASTM E647 | Auto scaling of graphs.  |
| ics  | Option to enter material properties  |
| han  | and specimen dimensions.   |
| nec  | Option to measure crack length   |
| lre I  | using remote LLD gage.   |
| actu   | Offline post processing program to   |
|  | analyze the results in MS Excel  |
| Testing 3606)  | Tests can be done in stress control,   |
|  | total strain control and plastic strain  |
| ]<br>[E6   | control.   |
| Fatigue<br>er ASTM                                       | Online display of loading modulus,   |
| atig<br>AS   | unloading modulus, K', n' yield  |
| F:   | stress, plastic strain, max-min  |
| le<br>As 1   | stress and strain  |
| Cycle<br>re (As  | Limit settings on stroke and strain  |
| Low Cycle Fatigue Testi<br>Software (As per ASTM E606)   | Auto data acquisition settings   |
| ow   | Online graphs of stress vs strain  |
| N L  | and transients   |



|   | /stem -  | Offline post processing program to analyze the results in MS Excel     Option to save the test profiles     Option to remove residual strain     Option to add strain to gage length.     Option to terminate the test at specified modulus drop, stress drop and/or increase in strain      Display - LCD monitor     Processor - Intel Core | 24 inch i5 or higher                 |
|---|--|---|--------------------------------------|
|   | puter s<br>tation                                    | RAM - DDR4 non-ECC Memory   | 16GB or more                         |
|   | Controls - Host computer system<br>Test work station | Storage - SSD   | 3.5 inch 500<br>GB                   |
|   | ls - Ho<br>Test                                      | Drive - Optical Disk Drive  | 8x DVD+/-<br>RW 9.5mm                |
|   | Contro   | <ul><li>Operating System</li><li>Wired Mouse and Keyboard</li></ul>   | Windows 10<br>Pro English            |
|   |  | battery backup  | 3000 VA                              |
|   |  | Load Cel  | with 30mons                          |
|   | Grips and Transducers                                |   |                                      |
|   |  | Dynamic Capacity Load Cell – 01 No  | ± 100kN                              |
|   |  | Accuracy - Class 0.5 (0.5% of indicated load)   | ISO7500-1                            |
|   |  | Safe over Load Capacity without mechanical damage   | 150%                                 |
|   |  | Resistance Strain Bridge design   | 350 Ohm or<br>higher                 |
|   |  | Non-Linearity - of Full Scale   | ± 0.15% or<br>better                 |
|   |  | Non-Repeatability - of rated output   | ± 0.02%                              |
| 5 | nd Trɛ   | Sensitivity     Hysteresis - of Full Scale  | 2 to 2.5mV/v<br>± 0.02% or<br>better |
|   | ʻrips a  | Fatigue Life  | 10^9 or<br>better                    |
|   | 9  | Room temperature 100kN Wedge grips  |                                      |
|   |  | <ul> <li>The grips included wedge inserts for flat and round specimens</li> <li>The flat wedges have provision to accommodate</li> </ul>  |                                      |
|   |  | specimens of 0-20mm thickness and round specimens of diameter 2.5-21mm  • Variable grip pressure based on the test samples  |                                      |
|   |  |   |                                      |
|   |  | Room Temperature Strain Gauge Extensometer  |                                      |



| •   | Gauge length (Arm Extender for 25 mm Gauge Length)            | 12.5 mm                                 |  |
|-----|---|---|--|
| •   | Measuring range   | +6.25/-3.1<br>mm                        |  |
| •   | Accuracy - of read out value as per ASTM E83                  | ± 0.5%                                  |  |
| •   | Rated for room temperature                                    |   |  |
| Roc | om Temperature Compression platen                             | , |  |
| •   | Diameter  | 150mm                                   |  |
| •   | Rated for room temperature                                    |   |  |
| •   | The platen should have spherical seats for self-<br>alignment |   |  |
| Roc | om Temperature 3 Point Bend Fixture                           |   |  |
| •   | Load capacity   | 100kN                                   |  |
| •   | Roller diameter   | 12.7 mm                                 |  |
| •   | Maximum Span  | 300mm                                   |  |
| •   | Support blocks to meet ASTM E 399 and ASTM                    |   |  |
|     | D790  |   |  |
| •   | Rated for room temperature                                    |   |  |
| Roo | om temperature 100kN LCF grips                                |   |  |
| •   | The grips and all the elements in the load train are          |   |  |
|     | assembled to ensure good alignment and                        |   |  |
|     | backlash free operation.                                      |   |  |
| •   | The pull roads shall be made up of suitable                   |   |  |
|     | material  |   |  |
| •   | The LCF grip pull rods have been selected to                  |   |  |
| •   | accommodate M8, M10, M12, specimens                           |   |  |
|     |   |   |  |
| •   | Grips rated for room temperature                              |   |  |
| Roo | om Temperature LCF Extensometer                               |   |  |
| •   | Gauge length  | 12.5 mm                                 |  |
| •   | Measuring range   | +1/-1 mm                                |  |
| •   | Accuracy - of read out value as per ASTM E83                  | ± 0.5%                                  |  |
| •   | Rated for room temperature                                    |   |  |
| Fra | cture Mechanics Clevis Grips                                  |   |  |
| •   | As per ASTM E647  |   |  |
| •   | Specimen thickness  | 12.5 mm                                 |  |
| •   | Specimen Width  | 25.4                                    |  |
| •   | Rated for room temperature                                    |   |  |
| CO  | D gauge   |   |  |
| •   | Gauge length  | 10 mm                                   |  |
| •   | Measuring range   | +7/-1 mm                                |  |
| •   | In compliance with ASTM E647 & E1820                          |   |  |
|     |   |   |  |



|   |                   | Rated for room temperature   |          |
|---|-------------------|--|----------|
|   |                   | COD gauge  |          |
|   |                   | Gauge length   | 10 mm    |
|   |                   | Measuring range  | +4/-1 mm |
|   |                   | In compliance with ASTM E647 & E1820   |          |
|   |                   | Rated for room temperature   |          |
|   | es                | The system should be safely shut down in the event of Power Failure  |          |
| 6 | Featur            | Uninterrupted Power Supply for Control console<br>and Hardware   |          |
|   | Safety FeatureS   | Manual override to stop test and return to zero load.  |          |
|   |                   | Tripping on overload and mains failure   |          |
|   |                   | Quotation submitted by the Original Equipment<br>Manufacturer (OEM) from India or authorized<br>representative in India only will be accepted and<br>will be considered for further evaluation. The<br>authorized representative shall submit to this<br>effect an authorization letter for OEM. |          |
|   | ditions           | Quotation shall not be submitted simultaneously<br>by an OEM as well as the Indian agent of the<br>same OEM. In such a case, both quotations will<br>be rejected.  |          |
|   |                   | The vendor shall be an established entity with<br>minimum five years' experience in<br>manufacturing and supplying Fatigue Testing<br>Machine.   |          |
| 7 | ms and Conditions | The equipment quoted shall be latest and standard model and should not be a customized one. Catalogues shall be submitted along with the technical bid.  |          |
|   | General Tern      | The vendor shall have a well-trained service network available in India to cater the service requirements of the installed Universal Testing Machine System (Capacity 100 kN). The details of the same shall be submitted along with the technical bid.  |          |
|   |                   | The vendor should have either or all of ISO 9001/<br>NABL/ NADCAP accreditation.   |          |
|   |                   | The vendor has to provide the installation certificate or USER Satisfactory Report (Minimum two different users) from users to whom they have supplied such systems.   |          |
|   |                   | OEM of the quoted equipment shall certify that spare & service support for quoted equipment would be available for at least 10 years from the date of quotation.   |          |



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|   |          | Machines should provision to upgrade high temperature setup in future. |  |  |
|---|----------|--|--|--|
| 8 | Warranty | 3 years Comprehensive Warranty (onsite/parts/labour)                   |  |  |

Note: The total cost will be taken into account for arriving L-1.



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# **ELIGIBILITY CRITERIA**

| SI.No |   | Description  | Compliance<br>Yes/No/N.A. | Page<br>No. |
|-------|---|--|---------------------------|-------------|
| 1.    | <b>Technical Sheet</b>                              | The technical bid compliance sheet & Eligibility Criteria (Annexure-1)   |                           |             |
| 2.    | EMD   | Payment proof for EMD of Rs.3,90,000/- or valid MSME Registration Certificate for EMD exemption. (Annexure-2)  |                           |             |
| 3.    | Declaration of Local<br>Content                     | Declaration of Local Content (Annexure-3)  |                           |             |
| 4.    | Authorization Letter from OEM                       | Authorization Letter from OEM (As Annexure-4)  |                           |             |
| 5.    | Experience<br>Certificate                           | Experience Certificate: Should have Supplied Two similar equipment (each costing Rs.1.00 Crore and above or equivalent foreign currency) to reputed organizations/ research institutions/ Universities etc. in India on or after 1/1/2017 (PO copies to be enclosed) (Annexure -5) |                           |             |
| 6.    | Leaflet   | Product Leaflet (Annexure-6)   |                           |             |
| 7.    | Bid Validity  | 90 Days  |                           |             |
| 8.    | Total Number of pages uploaded in the technical bid |  |                           |             |
|       | 1   | Please Enclose Relevant Document Only.   | ı                         | 1           |

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### **ANNEXURE-2**

### SELF-CERTIFICATION REGARDING LOCAL CONTENT (LC) FOR GOODS, SERVICES OR WORKS ISSUED BY OEM UNDER PREFERENCE TO MAKE IN INDIA ORDER CERTIFICATE FOR CLASS-I or CLASS-II LOCAL SUPPLIER

| Tender No.: |                                     |                                      |  |                         | ; Date:                   |                        |                   |                   |  |                     |               |
|-------------|-------------------------------------|--------------------------------------|--|-------------------------|---------------------------|------------------------|-------------------|-------------------|--|---------------------|---------------|
| Date:       | [insert d                           | ate (as day,                         | month and y  | year) of B              | id Submi                  | ssion]                 |                   |                   |  |                     |               |
| No          |                                     |                                      | declare  |                         | in                        | the                    | &                 | brand             | n<br>uipment                           | iame                | of<br>tails)  |
| (com        |                                     |                                      |  |                         |                           |                        |                   |                   |  |                     |               |
| of the      | -                                   |                                      | omotion of In  | ·                       | tent is d                 |                        | Name              | e of th           |  |                     | ress)         |
|             | The Co                              | ountry of O                          | rigin of the i                                       | tem(s) is/              | are                       |                        |                   |                   |  | ·                   |               |
| Trair       | lated or                            | the basis                            | lared that fi<br>s of Transp<br>services. Bu         | portation<br>t Equipn   | , Insurai<br>nent is M    | nce, Instanufactu      | tallati<br>1red/2 | ion, C<br>Assem   | ommiss                                 | sioning,            | and           |
| as pe       | eneral Fi<br>r Rule 1<br>issible ur | nancial Rul<br>51(iii) of toder Law. | ion will be it es of which the General hat the goods | a bidder o<br>Financial | or its succ<br>l Rules al | essors ca<br>long witl | n be o            | debarre<br>h othe | d for up<br>r action                   | to two y<br>s as ma | years<br>y be |
| with 1      |                                     |                                      | ial owner be   |                         |                           |                        | Juni              | . j tilat i       | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Jana De             | ,1001         |

We shall be held responsible if the certificate is found to be incorrect.

Seal and Signature of OEM & Bidder