

TENDER (E - PROCUREMENT MODE)

FOR

**THE SUPPLY & INSTALLATION OF STATIC UNIVERSAL TESTING MACHINE
IN THE SCHOOL OF ENGINEERING AT IIT MANDI**



Tender No.: IITMANDI/S&P/PUR-197/2020-21/6150-51

Tender date: 17th February, 2021

Last Date of Submission: 10th March, 2021

**Indian Institute of Technology Mandi (IIT Mandi),
Store & Purchase Section,
2nd Floor, A7 Building, South Campus,
Kamand – 175 075, District – Mandi (H.P.), India**

Tel.: 01905-267828/267039/267048

Email: srkr@iitmandi.ac.in & arsp@iitmandi.ac.in

Indian Institute of Technology Mandi, Kamand invites online Bids for the supply, erection, installation, commissioning, testing, demonstration and training of “**Static Universal Testing Machine**” as per specifications given in the Annexure attached to the Tender form. All offers should be made in English and should be written in both figures and words. Tender forms can be downloaded from the CPP Portal (<http://eprocure.gov.in/eprocure/app>) & Institute website <http://iitmandi.ac.in/administration/tenderseoi.php>.

The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Director, IIT Mandi, Kamand reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.

Instruction to bidder:

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender publishing on the CPP Portal.
2. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
3. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
4. The tenders will be received online through portal <http://eprocure.gov.in/eprocure/app>. In the Technical Bids, the bidders are required to upload all the documents in .pdf format. **All quotation (both Technical and Financial) should be submitted in the E-procurement portal.**
5. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through <http://eprocure.gov.in/eprocure/app>. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <https://eprocure.gov.in/eprocure/app> under the link “Information about DSC”.

Instruction for Preparation & Submission of bids:

1. Technical Bids should be submitted in PDF format & Financial Bids should be submitted in Excel format.
2. **In case of Financial bids**, a standard BOQ format has been provided in Excel format. Bidders are required to download the BoQ Excel file and fill their financial offer on the same BOQ format. After filling the same, submit it online in Excel format, without changing the financial template format. However, if bidder wants to modify in its financial offer, then bidder can modify.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid documents may be scanned with 100 dpi with black and white option.
4. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
5. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
6. **Kindly add scanned PDF of all relevant documents in a single PDF file like, compliance sheet, OEM/Principle Certificate etc.**
7. Bidder should log into the site well in advance for bid submission so that he/she could upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. The technical and financial bids should be submitted online through portal <http://eprocure.gov.in/eprocure/app> in original. The financial bid should include the cost of main equipment/item and its accessories. If there is any separate cost for installation etc. that should be quoted separately.
10. Each bidder should be marked with the following reference on the top bids submitted online: **“IITMANDI/S&P/PUR-197/2020-21/6150-51/Static Universal Testing Machine, dated 17th February, 2021”**.
11. The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender. The bidders should submit copies of suitable documents in support of their reputation, credentials and past performance in .pdf format.
12. The rates should be quoted in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. If there are

cuttings, they should be duly initialed, failing which the bids are liable to be rejected.

13. Tender Cost: The bidder should submit a demand draft of **Rs. 1,180 (Tender Fee inclusive GST) in Words Rupees One Thousand One Hundred & Eighty only** towards non-refundable **tender fee, drawn in favor of “The Registrar, IIT Mandi”** payable at Mandi in a sealed envelope super-scribed as **“Tender fee & NIT No. IITMANDI/S&P/PUR-197/2020-21/6150-51/Static Universal Testing Machine, dated 17th February, 2021”** on or before last date & time of submission of bids. **In the absence of tender fee, bids for evaluation shall not be accepted. NSIC/MSME exemption certificate shall be considered only against EMD (detail as mentioned in S.No.15).**

14. Earnest Money Deposit (EMD):

EMD amount - Nil.

However, As per GOI guidelines (OM No. F.9/4/2020-PPD, dated 12.11.2020) bidders are required to submit 'Bid Security Undertaking' in lieu of EMD (Annexure-II)

➤ **Note: Both (tender fee & EMD- Bid Security Undertaking) envelopes should be placed in another sealed envelope addressed to:**

**“Assistant Registrar, Stores and Purchase”
Indian Institute of Technology Mandi (IIT Mandi),
S & P Section, 2nd Floor, A7 Building, South Campus,
Kamand – 175 075, Distt. – Mandi (H.P.), India”**

This envelop having tender fee & EMD (Bid Security Undertaking) should reach on or before last date time of submission of bid.

15. EMD Exemption:

The Institute may accept bids without EMD from those bidders who are registered with the Central Purchase Organization, National Small Industries Corporation (NSIC) or the concerned Ministry or Department **as Manufacturer**. To claim the exemption, the bidder must be offering goods manufactured by themselves. Exemption will not be granted in case the bidder is acting as an agent for some other vendor.

General Terms & Condition:

1. While sending rates, the firm shall give an undertaking to the effect that **“the terms/conditions mentioned in the enquiry letter/Tender Notice against which the rates are being given are acceptable to the firm.”** in .pdf format. In case the firms do not give this undertaking, their rates will not be considered.
2. If the supplier/firm is original equipment manufacturer (OEM)/authorized dealer/sole distributor of any item, the certificate to this effect should submit in .pdf format.
3. The quantity shown against the item is approximate and may vary as per demand of the Institute at the time of placing order.
4. Any bids received after **03:00 P.M. on 10th March, 2021,** shall not be considered.
5. The Technical Bids will be opened on **11th March, 2021 at 03:00 P.M.** The date & time for opening of Financial Bids will be informed later on to the technically qualified bidders.
6. The tenders will be received online through portal <http://eprocure.gov.in/eprocure/app>. All tender documents received after the specified date and time shall not be considered.

For any correspondence regarding tenders is on below address:

**“Assistant Registrar, Stores and Purchase”
Indian Institute of Technology Mandi (IIT Mandi),
S & P Section, 2nd Floor, A7 Building, South Campus,
Kamand – 175 075, Distt. – Mandi (H.P), India”**

7. **Arbitration Clause:** In the event of any dispute or difference(s) between the vendee Institute (IIT Mandi) and the vendor(s) arising out of non-supply of material or supplies not found according to specifications or any other cause whatsoever relating to the supply or purchase order before or after the supply has been executed, shall be referred to “The Director, IIT Mandi”, Kamand who may decide the matter himself or may appoint arbitrator(s) under the arbitration and conciliation Act,1996. The decision of the arbitrator shall be final and binding on both the parties.
 - a) In case of a dispute between the purchaser and a foreign supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause above. But if this is not acceptable to the supplier then dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

- b) The venue of the arbitration shall be the place from where the order is issued.
 - c) The place of arbitration and the language to be used in arbitral proceedings shall be decided by the arbitrator.
 - d) All disputes shall be subject to Mandi Jurisdiction only.
8. All tenders in which any of the prescribed conditions is not fulfilled or any condition is put forth by the tenderer shall be summarily rejected.
9. The bidders or their authorized representatives may also be present during the opening of the Technical Bids, if they desire so, at their own expenses.

Note: Price bids of only those bidders will be opened whose technical bids are found suitable by the committee appointed for the purpose. Date and time of opening of price bids will be decided after technical bids have been evaluated by the committee. Information in this regard will be intimated only to the technically qualified bidders. In exceptional situation, an authorized committee may negotiate price with the qualified bidder quoting the lowest price before awarding the contract.

10. **Clarifications:**

In case the bidders require any clarification regarding the tender document, they are requested to submit their queries on the e-mail i.e.

srkr@iitmandi.ac.in & arsp@iitmandi.ac.in on or **before 05.03.2021**.

11. **Assistance To Bidders:** Any queries relating to the tender document and the terms & conditions contained therein should be addressed to tender Inviting Authority for a tender or relevant contact person indicated in the tender.

12. **Pre – Qualification Criteria:**

- Bidders should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed.
- An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.
- OEM should be internationally reputed Branded Company.
- Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.

- The Vendors who have earlier supplied the equipment to any of the IITs, IISc, IISERs and other Scientific Institutes of National/International repute may only tender. The details of such institutions and the cost with name of equipment may also be supplied with the bids.
- **In the tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.**
- **If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf another Principal/OEM in the same tender for the same item/product.**
- **Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.**

13. Prices:

Note: Bidder must quote financial bids in INR if Foreign Firm is quoting either through Their Existence in India or through their Indian Agent. Such Bids not Received in INR Shall Not be considered for further Evaluation.

- The Prices quoted should be inclusive of basic price of an item, custom duties, packing, forwarding, freight, insurance, delivery and commissioning etc. at destination site (IIT Mandi, Mandi/Kamand). IIT Mandi is registered with DSIR, Govt. of India and is exempted from Custom /GST Exemption Certificate to this effect will be issued by IIT Mandi. **Hence, Customs/Excise Duty exempted price should be quoted.** The rates shall be firm and final. Nothing extra shall be paid on any account.
- **In case of imports/foreign supplier, the price should be quoted on ex-work price/FOB/FCA basis only. Under special circumstance (e.g. perishable chemicals), when the item is imported on CIP/CIF, please indicate CIF/CIP charges separately upto Delhi indicating the mode of shipment. IIT Mandi will make necessary arrangements for the clearance of imported goods at the Airport/Seaport.**
- In case of imported equipment(s)/item(s), the agency commission, if any, payable in Indian rupees should be mentioned separately. **IAC shall be paid after satisfactory installation & commissioning of the goods at the destination.** For imported equipment, the Letter of Credit will be opened for the amount excluding agency commission in Indian Rupees. The firm should clearly mention the address of foreign bank in the financial bid.
- **In case of indigenous item, the vendor should clearly mention the final FOR IIT Mandi, Kamand Campus Price, as applicable in their bid.**

14. **Validity:**

The bid should be valid for acceptance up to a period of 180 Days. The Bidders should be ready to extend the validity, if required without any additional financial implications.

15. **Delivery:**

The Equipment should be delivered and installed within the period as specified in the purchase order and be ready for use within 6 months of the issue of purchase order unless otherwise prescribed. If the bidder fails to deliver and place any or all the Equipment or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum of 10% of total order value will be deducted.

16. **Installation, Training & Demonstration:**

Bidders need to provide adequate training to the nominated persons of IIT Mandi at their cost. IIT Mandi will not bear any training expenditure. The supplier is required to carry out the installation and demonstration of the equipment within **15 days** of arrival of materials at the IIT Mandi site of installation, otherwise the penalty clause will be the same as per the supply of material.

In case of any mishappening/damage to equipment and supplies during the carriage from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own cost. Supplier will settle his claim with the insurance company as per his convenience. IIT Mandi will not be liable to any type of losses in any form.

17. **Insurance:** For delivery of goods at the purchaser's premises, the Insurance shall be obtained by the supplier on "**All Risk**" basis. The insurance shall be valid for a period of not less than 3 months after installation and commissioning. **In case of order placed on FOB/FCA basis, the purchaser shall arrange insurance. If order placed on CIF/CIP basis, the insurance should be up to New Delhi, the supplier shall arrange insurance.**

18. **Warranty Declaration:**

Bidders must give the comprehensive on-site warranty as required from the date of successful installation of Equipment against any manufacturing defects and also give the warranty declaration that "*Everything to be supplied by us hereunder shall be free from all defects and faults in material, workmanship and shall be of the highest quality and material of the type ordered, shall be in full conformity with the specification and shall be complete enough to carry out the experiments, as specified in the tender document.*"

Any deviation in the material specifications from the accepted terms will lead to the rejection of the supply. The bidders need to supply all the goods in the specified form to the satisfaction/specifications specified in the order / contract and demonstrate at their own cost.

- The Purchaser Shall Promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall immediately within **Two weeks** arrange to repair or replace the defective goods or parts thereof free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie to the Purchaser for the replacement parts/goods thereafter. The period for correction of defects in the warranty period is **Two week**. If the supplier having been notified fails to remedy the defects within **Two week**, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expenses without prejudice to any other rights, which the purchase may have against supplier under the contract.
 - The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components.
 - After the warranty period is over, Annual Maintenance Contract (AMC)/Comprehensive Maintenance Contract (CMC) should be started. The AMC/CMC Charges will not be included in computing the total cost of the equipment. The award of AMC is optional and shall be decided by the purchase committee.
19. **Performance Bank Guarantee:** A performance bank guarantee from a scheduled bank in India for an amount equal to 3% of the price for duration of two months beyond the expiry of warranty period will be taken from the supplier or Indian agent.
20. **Terms of Payment:** Payment will generally be made only after delivery and satisfactory installation, testing, commissioning etc. **This must be specified in the tender/quotation.**
- In case of imported supplies, payment (excluding Indian agency commission, if any) will be made through irrecoverable Letter of Credit in two installments. 80 % of the money will be released on submission of shipping of documents. Remaining 20 % will be released after successful installation of the instrument and submission of a performance bank guarantee for 3% of the order value from scheduled bank in India, valid for 2 months beyond the expiry of the warranty.

All the bank charges within India will be borne by the Institute and outside India will be borne by the Supplier.

- In case of supplies from within the country, 80% payment will be made through E-payment after receipt of material in good condition and Remaining 20% will be released on successful installation of the instrument and on submission of a performance bank guarantee for 3% of the order value from scheduled bank in India, valid for 2 months beyond the expiry of the warranty.

21. **Tender expenses and documents:** All costs incurred by the bidder in the preparation of the tender shall be at the entire expense of the bidder.

22. **Tender Evaluation Criteria:** The technical bids will be opened and evaluated by a duly constituted committee. After evaluation of the technical bid, the financial bid for only those offers which have qualified in the evaluation of technical bid will be opened.

23. **Return of EMD:**

- The earnest money of unsuccessful bidders will be returned to them without any interest within 15 working days after awarding the contract.
- The earnest money of the successful bidder will be returned to them without any interest within 15 Days after supply of material.

24. **Manual and documentation:** All the manuals necessary for operating and servicing the equipment (including details of electronic circuits) will have to be provided along with the instrument.

25. The IIT Mandi reserves the right to cancel the tender at any stage (point of time) without assigning any reason.

26. Bidders should go through the tender terms, conditions and specifications carefully and fill in the attached compliance statement accurately and unambiguously. They should ensure that all the required documents are furnished along with the bid.

Sd/-
**Assistant Registrar
Stores & Purchase**

BID PARTICULARS

1. Name of the Supplier :

2. Address of the Supplier :

3. Availability of demonstration of equipment: Yes / No

4. Tender cost enclosed: : Yes/No if yes

D.D. No. _____ Bank _____ Amount _____

5. EMD enclosed : Yes / No if Yes

D.D. No. _____ Bank _____

6. Name and address of the Officer/contact person to whom all references shall be made regarding this tender enquiry.

Name :

Address :

Telephone No. :

Fax No. :

Mobile No :

e-Mail :

Web :

< Organization Letter Head >>
DECLARATION SHEET

We, _____ hereby certify that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification. This is certified that our organization has been authorized (Copy attached) by the OEM to participate in Tender. We further certified that our organization meets all the conditions of eligibility criteria laid down in this tender document. Moreover, OEM has agreed to support on regular basis with technology / product updates and extend support for the warranty.

We, further specifically certify that our organization has not been Black Listed/De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.	NAME & ADDRESS OF THE Vendor/ Manufacturer / Agent
1 Phone	
2 Fax	
3 E - mail	
4 Contact Person Name	
5 Mobile Number	
6 TIN Number	
7 PAN Number	
8 GST No.	
9 Kindly provide bank details of the bidder in the following format: a) Name of the Bank	
b) Account Number	
c) Kindly attach scanned copy of one Cheque book page to enable us to return the EMD to unsuccessful bidder	

Ref:-ENQUIRYNO:- IITMANDI/S&P/PUR-197/2020-21/6150-51/Static Universal Testing Machine, dated 17th February, 2021.

Technical Specifications of Static Universal Testing Machine:

1. A computer-controlled closed loop servo hydraulic machine with the characteristic values of the force measuring system conforming to the Class-1 range of ISO 7500-1:1999/IS: 1828 (Part 1): 2005 to enable tensile, bend/re-bend, and compressive tests.
2. The setup should comprise of the following components:

A. Computerized control unit (Qty – 1 no.):

- Comprising of a PC interface loaded with an interactive software for exercising fully automatic stress, strain and equivalent strain rate control through an appropriate hydraulic system.
- Capable of storing, analyzing and presenting key test data through the software GUI.
- Capable of connecting to at least two load frames – (i) universal and (ii) compression – and run any one frame at a time.
- Capable of connecting to extensometers, compressometers and strain gauges for data acquisition for different tests.

B. Universal testing frame of 2000 kN static load capacity (Qty – 1 no.):

- With all accessories as may be necessary to carry out tensile test of metal specimens: rebar, rounds, flats, wire strands, threaded and shouldered pieces.
- With a former and support assembly and other attachments as may be necessary to carryout bend and re-bend tests on metal specimens: rebars and other elements with round, square, rectangular or polygonal cross section.
- With all accessories as may be necessary to carry out compression test and split tensile test on concrete cubes and cylinders of standard sizes

C. Compression frame of 3000 kN static load capacity (Qty – 1 no.):

- With all accessories as may be necessary to facilitate the compression testing of large cylindrical and prismatic concrete and rock specimens.

The detailed technical specifications for the above are as follows.

A. Technical specifications for the computerized control unit:

Sl. No.	Particulars
1	<p>Hydraulics:</p> <ul style="list-style-type: none">a. Should be capable of implementing automatic servo-hydraulic control of load/stress/strain/equivalent strain by suitable transducersb. Should be capable of producing a continuous and non-pulsating oil flow at suitable pressurec. Should comprise of an air-based oil cooling systemd. Noise rating of the hydraulic power pack should be lesser than 80 dbe. Should have the provision of connecting to two load test-frames – (i) universal and (ii) compression - and run any one at a given timef. Frame selection must be automatic through software. No manual valve operation should be requiredg. Should be capable of running on standard AC single or three phase supplyh. The hydraulic power pack should be vibration free and compact. The hydraulic oil grade to be used in the machine should be commercially available in India
2	<p>Controller:</p> <ul style="list-style-type: none">a. Should provide tensile test control options based on:<ul style="list-style-type: none">• Strain rate (through extensometer feedback) in the range of 0.00007 to 0.0025 s⁻¹ with a relative tolerance of ± 20% or better (for the determination of ReH, Rp, Rt)• Estimated strain rate (based on crosshead separation rate) in the range of 0.00025 to 0.008 s⁻¹ with a relative tolerance of ± 20% or better, with a provision to adjust for machine compliance if desired (after having determined ReH, Rp, Rt)• Stress rate in the range of 2 to 30 MPa/s or better (for the determination of ReH, Rp, Rt)

	<ul style="list-style-type: none"> b. Should facilitate a gradual and automatic switching from strain rate control mode to estimated strain rate control mode without causing discontinuities in the stress-strain curve during tensile test c. Should be capable of driving the compression test frame with a loading rate in the range of 0.01 to 0.25 MPa/s d. Should be based on a P.I.D. algorithm with adequate close loop control frequency of 250 Hz or better e. The rate and bit resolution of data acquisition from controller to PC and the P.I.D. close loop control frequency should be adequate to facilitate the operation of the machine over the control ranges stated above. f. Should have the provision of connecting to at least 10 sensors including extensometers and strain gauges g. Should be capable of providing a load resolution of 0.1 kN or better at an accuracy of $\pm 1\%$ or better h. Should be capable of providing a displacement resolution of 0.01 mm or better at an accuracy of $\pm 1\%$ or better i. Should be capable of automatically turning the pump on and off, controlling the set pace rate and switching off the machine under predetermined conditions of load or displacement j. Should be capable of automatically releasing the pressure at the end of every run and re-initialize the machine at the beginning of every test k. Safety features: Electrical over travel switch, Emergency switch, CE certificate or equivalent
<p>3</p>	<p>PC interface:</p> <p>A desktop system with:</p> <ul style="list-style-type: none"> a. Core i5 processor or better b. 8 GB- DDR3 RAM or higher c. 1 TB hard disk or higher d. LAN port e. Window 10 with Professional Office (licensed copy) or higher

	<ul style="list-style-type: none"> f. LED display 21' monitor or better g. Wireless keyboard and mouse h. Color laser printer i. 1100 VA UPS
<p>4</p>	<p>Legal and licensed software:</p> <p>Should facilitate the control of the complete system for automatic test execution according to the selected test type, calculation of results, graphical presentation of data</p> <ul style="list-style-type: none"> a. Should produce customized test reports including relevant plots and key data for different tests b. Should automatically detect specimen failure (when it occurs) and stop the test c. The module for tensile testing should produce graphs of stress vs. time, elongation vs. time, stress vs. elongation, and stress vs. strain in real-time during the test d. At the end of test, the module for tensile testing should report the following parameters as defined in ISO 6892-1:2016: <ul style="list-style-type: none"> • Upper and lower yield strengths (ReH and ReL) • Proof strengths (Rp and Rt) at strain percentages specified by the user • Percentage extension values (Ag, At, Agt, Ae) • Elastic modulus (E) and percentage reduction in area (Z) e. The modules for compression and split-tensile tensile tests should produce graphs of load vs. time and stress vs. time f. Should have programmable load/stress cycle with stress vs. axial strain and stress vs lateral strain in real time display for the determination of E-modulus and Poison's ratio of concrete cylinders g. Free upgrades for the software should be made available for at least five years to maintain compatibility with the computer operating system and test standards

B. Technical specifications for test frames:

1	2000 kN Universal Testing Frame <ul style="list-style-type: none">a. Static loading capacity: 2000 kNb. Working range: 1-100% of full scale with $\pm 1\%$ accuracy or betterc. Should use a load cell for load measurementd. The loading frame should have a front open cross head and hydraulic gripping arrangemente. Should have an adjustable vertical clearance for tensile test: 50-850 mm or betterf. Piston stroke: 300 mm or betterg. Deflection of the frame in the direction of loading at full scale should be less than 1.5 mmh. Should be supplied with inserts for holding round samples of 8-72 mm diameter for tensile testi. Should be supplied with inserts for holding flat samples of 0-84 mm thickness and up to 100 mm width or better for tensile testj. Should be supplied with inserts for seven-wire strands of 6.4 mm, 9.5mm, 11.1 mm, 12.7 mm and 15.2 mm nominal diameter and suitable grips as per ASTM-A 416/ IS 14268:2017 for tensile test to ensure satisfactory failure mode of the specimenk. All accessories required to carry out bend (achieving parallel sides) and re-bend (for achieving included angles of 135° and 157.5°) tests on rebars of 8-40 mm nominal diameters according to the specifications of IS 1599:2019 / ISO 7438:2016 and IS 1786:2008 with:<ul style="list-style-type: none">• Clear distance between the supports: Adjustable from 30 mm to 500 mm or better• Mandrel/Former diameters: 16 mm, 20 mm, 24 mm, 30 mm, 32 mm, 36 mm, 40 mm, 48 mm, 50 mm, 56 mm, 60 mm, 64 mm, 70 mm, 72 mm, 75 mm, 80 mm, 84 mm, 96 mm, 100 mm, 108 mm, 112 mm, 120 mm, 125 mm, 128 mm, 140 mm, 144 mm, 150 mm, 160 mm, 168 mm, 175 mm, 180 mm, 192 mm, 196 mm, 200 mm, 216 mm, 224 mm, 240 mm, 256 mm, 280 mm, 288 mm, 320 mm
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	<p>1. Attachments for shouldered and threaded specimens as per ASTM –E8 including one set of two split bushes with spring for 20 & 22 mm diameter shouldered specimens and one set of 3 threaded busses for M12, M16 & M20 threaded specimens</p>
<p>2</p>	<p>3000 kN Compression Testing Frame</p> <p>a. Static loading capacity: 3000 kN</p> <p>b. Working range: 5-100% of full scale with $\pm 1\%$ accuracy or better</p> <p>c. Should either use a load cell or pressure transducer for load measurement</p> <p>d. The frame should have a plate type structure with safety guard doors</p> <p>e. The frame should have a single acting hydraulic cylinder at its center</p> <p>f. Maximum travel of ram should be equal to 100 mm with suitable travel limit switch</p> <p>g. Deflection of the frame in the direction of loading at full scale should be less than 1.5 mm</p> <p>h. The vertical and horizontal daylight should be adequate to accommodate cylindrical specimens of 300-600 mm diameter and 600-1200 mm height</p> <p>i. The design of machine platens, auxiliary platens and spacing blocks should conform to the specifications of ASTM C39/C39M -20 and IS 14858:2000</p>

C. Accessories:

<p>1</p>	<p>Electronic Extensometer for steel bars (Qty – 1 no.) and wire strands (Qty – 1 no.)</p> <p>a. Should comply to 0.5 calibration class of ISO 9513</p> <p>b. Should be of contact type and be reusable</p> <p>c. Gauge length and travel for round specimens of 4 to 40 mm diameter:</p> <ul style="list-style-type: none"> • Gauge length: adjustable in the range of 5 mm to 200 mm • Travel: 50 mm or higher • Resolution: 0.01 mm • Accuracy: $\pm 1\%$
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	<p>d. Gauge length and travel for 7-wire strands of 6.4 mm, 9.5 mm, 11.1 mm, 12.7 mm and 15.2 mm nominal diameter:</p> <ul style="list-style-type: none"> • Gauge length: 600 mm or higher • Max travel: 50 mm • Resolution: 0.01 mm • Accuracy: $\pm 1\%$
<p>2</p>	<p>Electronic Extensometer-Compressometer for standard concrete cylinder (Qty – 3 no.)</p> <ul style="list-style-type: none"> a. Should comply to calibration class 1 of ISO 9513 b. Gauge length: adjustable in the range of 50 mm to 160 mm c. Travel: 3 mm or higher d. Resolution: 0.01 μm e. Accuracy: $\pm 1\%$

D. Other requirements:

- a.** The supplier has to furnish calibration certificates traceable to NABL or any other national agency certified under ISO/IEC 17025.
- b.** At least 5 days of onsite training shall be provided to students/staff/faculty.
- c.** A minimum 2 years of full warranty shall be provided.
- d.** Original catalogue with model numbers must be submitted. Just typing the tender specifications on company letterhead will cause to rejection of tender without any clarifications.
- e.** The bidder must give a technical presentation with explanation of all functions before the opening of financial bids, if called for by the purchase committee.

BID SECURITY UNDERTAKING

(To be issued by the bidder on company's letterhead in lieu of EMD)

To,

The Registrar,
I.I.T. Mandi,
Kamand, – 175 075,
District – Mandi, Himachal Pradesh, India

We, M/s _____ (Name of the Firm), with ref. to Tender No. **IITMANDI/S&P/PUR-197/2020-21/6150-51/Static Universal Testing Machine, dated 17th February, 2021**, hereby undertake that:

- 1) We accept all terms and conditions of the tender document.
- 2) We accept that, we will not modify our bid during the bid validity period and will honour the contract after the award of contract.
- 3) In the event of any modification to our bid by us or failure on our part to honour the contract after final award, our firm may be debarred from participation in any tender/contract notified by IIT Mandi for a period of one year. We undertake that we shall not appeal against such debarment in any court of law.

Yours faithfully,

(Signature)

Name:

Date:

Office Seal:

**COMPLIANCE STATEMENT FOR THE TENDER SPECIFICATION
INDIAN INSTITUTE OF TECHNOLOGY MANDI
SOUTH CAMPUS, KAMAND – 175 075, DISTRICT – MANDI, HIMACHAL PRADESH**

Ref:- ENQUIRYNO:- IITMANDI/S&P/PUR-197/2020-21/6150-51/Static Universal Testing Machine, dated 17th February, 2021.

Sr. No.	Check list of documents/ Undertakings?	YES/ NO	Remarks (Give explanation if answer is No)
1	Is Tender fees attached?		
2	Is EMD attached? (if applicable)		
3	Is the bidder original equipment manufacturer (OEM)/authorised dealer?		
4	If authorised dealer, recent dated Certificate to this effect from OEM, attached or not?		
5	Undertaking from OEM regarding technical support & extended warranty period		
6	Validity of 180 days or not?		
7	Undertaking from bidder regarding acceptance of tender terms & conditions		
8	Whether list of reputed users (along with telephone numbers of contact persons) for the past three years specific to the instrument attached.		
9	Whether special educational discount for Indian Institute of Technology (IIT) Mandi (H.P) given.		
10	Whether training of operator and research students without any charges offered.		
11	Does the instrument comply with all the required specifications as per annexure 1. IMPORTANT: Attach a separate sheet highlighting compliances with the specifications and explanations thereto if the equipments vary from the requested specifications.		
12	Whether free Installation, Commissioning and Application Training offered.		
13	Whether warranty as per requirement offered		
14	Whether Annual maintenance after expiry of comprehensive onsite warranty quoted separately as optional.		