

 <p>IIT PALAKKAD</p>	<p>भारतीय प्रौद्योगिकी संस्थान पालक्काड Indian Institute of Technology Palakkad अहलिया एकीकृत कैम्पस, कोज़िपारा Ahalia Integrated Campus, Kozhipara पालक्काड- 678557 Palakkad – 678 557</p>	<p>दूरभाषसंख्या/ Phone no: 04923 – 226 586/590 ईमेल/ Email : purchase@iitpkd.ac.in</p>
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Prof. Job Kurian
Registrar i/c

Ref : Geotechnical Engineering Lab Eqpt./IIT Palakkad
Date: **23.01.2018**

Open Tender No: IITPKD/CIE/TKSU/108/2017

Due Date: 13.02.2018 at 3.00 PM

Dear Sir/Madam,

On behalf of the **Indian Institute of Technology, Temporary campus, Palakkad**, Quotations are invited for the supply, installation, testing and commissioning of the following “**Fully Automated Soil- Geosynthetic Interface Shear Resistance Testing System**” conforming to the specifications given in the Annexure II.

Technical Bid Opening: The technical bid will be opened on **13.02.2018 at 3.00 PM in Conference Room, Academic Block, IIT Palakkad.**

Instructions to the Bidder

- (i) **Preparation of Bids:** - The tenders should be submitted **under two-bid system (i.e.) Technical bid and Financial bid in separate envelopes.** The technical bid should consist of all technical details. No prices should be included in technical bid. Financial Bid should indicate item – wise prices for the items mentioned in the technical bid. The technical and the financial bids should be put in separate cover and sealed. Both sealed covers should be put into a bigger cover. **Technical bids must either be spiral bound / stapled together. No loose sheets will be accepted. All pages must be numbered.**
- (ii) **The Quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.**
- (iii) **Delivery of the tender:** - The tender shall be sent to the below-mentioned address either by post or by courier so as to reach this office before the due date and time specified in the Schedule. The offer/bid can also be dropped in the tender box on or before the due date and time specified in the schedule. **The tender box is kept in the office of the “Academic Block, IIT Palakkad, Ahalia Integrated Campus, Kozhipara, Palakkad-678 557.**
- (iv) **Opening of the tender:** - The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be scrutinized by a technical committee, which will decide the suitability of the bid as per our specifications and

requirements. The bidders will be invited for opening of Technical bids. **The person who is attending the tender opening should bring an authorization letter from their principals duly authorizing him to attend the tender opening. Without the authorization letter, nobody will be allowed to attend the tender opening.** In respect of opening of financial bid, those bidders who are technically qualified only will be called.

- (v) **Prices:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges indicated separately for each item. **The price indicated should be CIF/CIP Kochi.** The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated. The price should be quoted without custom duty, **the custom duty will be paid at concessional rate against duty exemption certificate.**

- (v) **Agency Commission:** - Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation and smooth functioning. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.

- (vi) **Terms of Delivery:** - The item should be supplied to our Institute as per Purchase order. In case of import supply, the item should be delivered at the cost of supplier to our institution. The installation and commissioning should be completed as specified **by us in the attached schedule** .

- (vii) **Acceptance & Rejection:** IIT Palakkad reserves the full right to accept / reject any tender at any stage without assigning any reason.

Yours sincerely

Registrar, IIT Palakkad

SCHEDULE

Important Conditions:

1. The due date for the submission of the tender is **13.02.2018 at 3.00 PM**
2. The offers / bids should be submitted in two bids systems (i.e.) Technical bid and financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item/equipment-wise price and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and financial bid should be put in separate covers **superscribed clearly as "Technical Bid" and "Financial bid"** and sealed. Both the sealed covers should be put in a bigger cover. The Open Tender for **"Geotechnical Engineering Laboratory Equipment"** should be written on the left side of the Outer bigger cover and sealed.
3. **EMD: -EMD should be at 2% (two percent) of the tender value quoted by the bidder.** The EMD should be enclosed with the financial bid which will not be opened for Technical evaluation. **Enclosing the EMD in the Technical bid will automatically disqualify the bidder.** EMD should be in the form of DD in favour of **"Indian Institute of Technology Palakkad" and payable at Palakkad"**. The tender without EMD would be considered as UNSOLICITED and will be REJECTED. Photo/FAX copies of the Demand Draft/Banker's pay orders will not be accepted. No interest will be paid for the EMD and the EMD (Bid Security) will be refunded to the successful bidder on receipt of Performance Security.
4. **Performance Security:-** The successful bidder will be asked to submit Performance Security for an amount of 5% of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD or FD Receipt from the commercial bank or Bank Guarantee from any nationalized bank of India. Only after submission of Performance Security, Purchase Order/Work Order will be released / L.C will be opened.
5. **Performance Security in the form of Bank Guarantee:-** In case the successful bidder is a foreign company and wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee should be routed through the Beneficiary Bank to the end user bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee from a Nationalized Bank of India

The Bank Guarantee should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including the warranty obligations.
If an Indian agent is involved, the following documents must be enclosed:
Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
 - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
6. The offer/bids should be sent only for a system or equipment that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted .

7. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid. No prices should ever be included in the Technical bid.
8. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
9. **Validity:** Validity of Quotation not less than 90 days from the due date of tender.
10. **Risk Purchase Clause:-** In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
11. **Payment:-** No Advance payment will be made for Indigenous purchase. 100% Payment after supply and successful installation and commissioning and certification by the end user. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (50% payment will be released against shipping documents and 50% after successful installation and meeting acceptance criteria wherever the installation is being done).Advance payment may be considered on submission of Bank Guarantee equal to the amount of advance payment.
12. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within 15 to 20 days from the date of receipt of the item at site of IIT Palakkad.
13. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (For more details please refer our Technical Specifications).
14. **Late offer:** - The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.
15. **Acceptance and Rejection:** - IIT Palakkad has the right to accept the whole or any part of the Tender or portion of the quantity offered or rejects it in full without assigning any reason.
16. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
17. **Disputes and Jurisdiction:** - Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Palakkad in Kerala.

18. All Amendments, time extension, clarifications etc., will be uploaded on IIT Palakkad website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

19. **Loading & unloading: Loading and unloading charges will be borne by the successful bidder.**

Acknowledgement:- It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF TENDERER
ALONG WITH SEAL OF THE
COMPANY WITH DATE**

QUALIFICATION REQUIREMENT

1. Bidder qualifications

The Bidder must be an Original Equipment Manufacturer (OEM) of all the quoted equipment or his Authorized Dealer/Authorized Distributor/ Authorized Stockist/ Channel Partner having a Direct Purchase and Support agreement with the OEM. If the Bidder is a Dealer/Distributor, the bidder should provide a copy of valid LETTER OF AUTHORIZATION from the Original Equipment Manufacturer for Dealership.

2. Performance Certification

- a) The bidder should have supplied and installed the quoted equipment to organizations such as IITs, IISc, NITs, DRDO, CSIR labs or foreign reputed universities. The copies of the purchase orders and other documents of proof have to be attached with the technical bid. Vendor should also enclose the reference with contact details and the performance certificate along with the technical bid.
- b) The bidder must produce certificates of satisfactory performance and service support from the end-users.
- c) The list of end-users specifically for the quoted item or similar equipment along with the complete name, address and contact numbers of the user organizations/persons should be submitted with the quotation.
- d) IIT Palakkad, may gather feedback from the users about the particular model specified in the quote, or similar equipment, and about the general service and maintenance provided by the vendor. The feedback may also be sought from users, who are not listed by the vendor.

3. Specifications

- a) It should be ensured that the bids must be strictly as per IIT Palakkad's specifications mentioned in Annexure II. At the same time, it must be kept in mind that merely copying IIT Palakkad's specifications in the quotation shall not make the parties eligible for consideration of the quotation. **A quotation has to be supported with a printed copy of published technical catalogue and photographs showing all the components of each item included in the quotation. Quotations without proper technical documents and catalogues will be summarily rejected without providing any opportunity for clarifications/negotiations by the vendor.** The model quoted should be highlighted in the leaflet/literature enclosed with the quotation. Non-compliance of the above shall be treated as incomplete/ambiguous, and the offer can be ignored without giving an opportunity for clarification/negotiation, etc., to the quoting party. Lack of clarity in any information will be treated as lack of information.
- b) The technical bid shall be evaluated for acceptability by the technical committee duly constituted for this purpose. Before issuing the purchase order, the eligible vendor should be prepared to make a technical presentation if required. If the manufacturer is

using a component manufactured by another manufacturer, the vendor should clearly specify the make, brand, and name of the manufacturer.

4. Demonstration

- a) Upon request from IIT Palakkad, if required, the vendor should arrange demonstration of the equipment offered, free of charge on a mutually agreeable place and date prior to opening of financial bid to ascertain their conformity with tendered specifications. Unsatisfactory demonstration may lead to disqualification of the vendor. A letter to the registrar which clearly states the details of the equipment for demonstration and the organization having the equipment should be attached with the technical specifications. The required approval from the organization must be obtained by the vendor.

5. Compliance statements

- a) Vendors must furnish a Compliance Statement of each and every required specification of IIT Palakkad's tender in the format as shown in Annexure I. The deviations, if any, from the tendered specifications should be clearly brought out in the statement.

6. Infrastructure requirements

The bidder should clearly give in writing, the requirements that have to be arranged by the institute for proper functioning of the equipment within two weeks after the release of purchase order.

7. Delivery schedule

- a) All the tendered equipment should be supplied within 18 weeks of order and installation, testing and commissioning should be done in another 4 weeks, in consultation with IIT Palakkad. **In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.**

8. Installation and commissioning

The vendor should take full responsibility for the supply, installation, testing and commissioning of all the tendered equipment. Installation and commissioning should be carried out at IIT Palakkad by trained and experienced service engineers. The installation, testing and commissioning should be completed within 4 weeks from the date of delivery. The performance of the system should be demonstrated to the satisfaction of the faculty/staff of IIT Palakkad.

9. Acceptance test

Acceptance tests will be carried out to check the performance of all the equipment as per technical specifications of IIT Palakkad. The selected vendor should demonstrate the basic and advanced tests. The list of acceptance tests along with the details should be submitted, and will be verified by faculty of IIT Palakkad. Any modifications suggested by the faculty/staff of IIT Palakkad should be incorporated by the vendor. All test kits and specimens for the test should be brought by the vendor at their cost.

10. Maintenance and service support

The vendor should have competent and reliable service network in India for performing quick and necessary repair and maintenance of all the components of the tendered equipment. Details of the nature of service support and which vendor can provide it, should be given along with the technical bid. The vendor should commit to provide maintenance service and supply necessary spares for the equipment for at least 10 years after successful installation and commissioning of the equipment. The service provider should have a history of providing such services for the past 5 years, and should be supported with corroborating documents. The details provided by the vendor in this regard should be convincing to IIT Palakkad.

11. Warranty

The Successful bidder shall provide standard warranty along with extended warranty put together three years of warranty after the completion of installation and final acceptance including on-site. The quote should clearly mention that the extended warranty support includes free replacement of spares wherever necessary with no cost to IIT Palakkad. The warranty should include at least one scheduled visit per annum of bidder's service engineer for inspection and maintenance of equipment. This should be in addition to any number of visits that may be required for attending warranty related issues.

12. Operation and maintenance manuals

a) Two sets of operation and maintenance manuals along with all necessary drawings should be supplied with each equipment. Backup CD/DVD for total firmware, background software and the application software packages should be supplied.

13. Operation and Maintenance Training

The vendor should arrange for operational and maintenance training of all the tendered equipment for the faculty/staff of IIT Palakkad. The trainer should be technically sound, and be able to answer/demonstrate all queries that the faculty/staff of IIT Palakkad may have. The trainer should be thoroughly familiar with the equipment and its various components. The trainer should be a permanent employee of the company with a minimum of 3 years' experience in demonstrating such equipment for conducting soil tests. The details about the training programs and a brief bio-data of the trainer should be submitted along with the technical bid. IIT Palakkad may decide to record (audio and/or video) training/demonstration of the use of equipment for internal use. Training material by the manufacturer shall also be provided. All costs related to the training shall be borne by the vendor.

14. Transport

The vendor is responsible for all cost related to freight and transport of the equipment to IIT Palakkad's facility. The custom duty will be paid at concessional rate against duty exemption certificate.

15. Payment

The complete payment will be done after commissioning and satisfactory performance of the equipment.

ANNEXURE I: COMPLIANCE STATEMENT OF SPECIFICATIONS

Instructions for filling the Compliance Statement of Specification

1. The vendor should prepare, sign and submit the Compliance Statement of Specification **in the given format in A3 size sheets** along with the technical bid.
2. Submit separate Compliance Statement of Specification sheets for each item/ equipment.
3. Ensure that the component number and heading in the Technical Specifications is clearly mentioned in the document. If there are any deviations from the specifications mentioned by IIT Palakkad, the vendor should clearly indicate the deviations and give reasons for the deviation with proper justification.
4. Technical leaflet/literature/catalogue or any relevant document for all the quoted equipment should be provided to IIT Palakkad. The information provided in the compliance statement without supporting documents will not be considered for the evaluation of the technical bid.
5. If the supporting documents are not available for any information provided in the compliance sheet, it will be treated as non-compliance and may lead to the disqualification of the technical bid.
6. The vendor should clearly respond to every requirement given in the technical specification. Lack of clarity will be considered as lack of information and may subsequently lead to disqualification of the technical bid.
7. Every component should have manufacturer's logo/name engraved/pasted on it. Photograph to be provided as proof.

Item No.	IIT Palakkad's technical specification of components / parts as given in Annexure II	Specifications of model quoted by the vendor	Vendor's specification complies with IIT Palakkad's technical specification? (YES/ NO)	Deviation, if any, to be indicated in unambiguous terms	Page no. of relevant specification for the quoted model in the technical manual/leaflet

ANNEXURE II: TECHNICAL SPECIFICATIONS

Item No.	Name of Equipment	Name of Experiments	Quantity	List of Components
1	Fully Automated Soil-Geosynthetic Interface Shear Resistance testing system	Interface shear resistance testing for - Geomembrane with soil - Geotextile with soil - Geocomposites with soil - GCL with soil - Geogrid with soil - Internal friction of GCLs	1	A. Interface shear box assembly and specimen preparation accessories B. Loading unit / Load frame C. Displacement transducers D. Test software for controlling and reporting E. PC based data acquisition and control system F. PC Desktop G. Tool kit

Specification:

The unit should meet the requirements of ASTM D5321, D6243, D3080 and BS 1377 standards. The unit should have automatic computer control to determine the interface shear resistance of Geosynthetic materials such as geomembrane, geotextile, geocomposites, GCL, geogrid, etc. with the soil, shear strength parameters of soil by direct shear test on soil, Internal and Interface shear resistance of Geosynthetic clayliner (GCL) etc. Should be suitable for testing minimum 300mm x 300mm x 200mm sample containing soil and geosynthetic to evaluate soil to geosynthetic friction characteristics. The unit should be capable of providing variable rate of strain for interface shear test. System should be complete in all respect to perform all tests as per relevant ASTM/ BS/ BIS standards. The system should include the following minimum components:

A. Interface shear box assembly and specimen preparation accessories:

- i. Interface Shear box assembly with dimension of minimum 300mm x 300mm x 200mm in two halves and all sample preparation and testing accessories as per ASTM D5321, D6243, D3080 and BS 1377 standards
- ii. End clamps and grip plates for geosynthetics and GCL
- iii. Linear bearings for minimum horizontal friction
- iv. Unit should be capable of applying a constant rate of strain or stress at any displacement rate up to minimum 10 mm per minute
- v. The assembly should also include minimum : Base plates, 4 Porous stones, Upper loading pad, Grid and perforated plates, Holding pins, Grip plates and end clamps, Counter balance device, Shear box cutter, Dolly/tamper etc.

B. Loading unit / Load frame:

- i. Loading unit should be capable of applying the horizontal and vertical loads up to minimum 50 kN
- ii. It should work in Load and Displacement control mode
- iii. Fully independent operation by keypad & LCD screen for sample setup
- iv. Stepper motor with built-in controls for applying vertical load and horizontal load
- v. Vertical Travel and Horizontal Travel : Minimum 100 mm with a resolution of 0.002 mm
- vi. It should maintain and regulate load within 0.01kN and displacement within 0.01mm
- vii. Load cells with adapters: Strain gauge type load cells 2 numbers; +/-50 kN range , accuracy/non-linearity : 0.05 % or better of Full Range Output
- viii. It should have space to accommodate the sample of 300mm x 300mm x 200mm
- ix. Power: 110-240 V, 50/60 Hz, AC- 1 phase
- x. Fitted with safety limit switch for over load, travel and over temperature
- xi. The apparatus should have sufficient number of USB or LAN ports or RS232 interface for connecting to a computer or other external devices (eg., USB)

C. Displacement transducers: 2 No.s (For Horizontal and Vertical displacement measurement)

- i. Range- 100mm
- ii. Resolution- minimum 0.002 mm
- iii. Accurate displacement rate control : minimum 10^{-4} mm/min to 15 mm/min
- iv. Accuracy/non-linearity : 0.1% or better of Full Range Output

D. Test software for controlling and reporting

- i. Windows based software to use feedback from the sensors to provide real-time control of load and displacement
- ii. The software should be capable of controlling the test without user intervention to perform fully incremental consolidation test, interface shear displacement control, shear load control, residual shear load and displacement control, constant volume swell, constant stress swell etc. with all stage of tests automatically.
- iii. Report should be generated in graphical and tabular format differently for all stages of the test
- iv. It should have facility to export all test data to Excel
- v. It should have facility to calibrate the sensors by the user as and when required
- vi. Free upgrade to the latest version of software should be possible
- vii. Test should automatically start from the point where it was left off if the test was not completed due to an unexpected event such as power failure and should have auto recovery option to prevent data loss

E. PC based data acquisition and control system:

- i. On-line data acquisition and real-time graphical and numerical display of readings

- ii. 4-channel data acquisition with minimum 24-bit resolution
- iii. Minimum Data Storage of 1000 tests
- iv. Minimum Effective sampling rate of 50 readings per second

F. PC Desktop:

A desktop computer for test control, data acquisition and monitoring should also be provided. Following are the minimum PC requirements:

- i. Processor : 64 bit (i-5 Processor)
- ii. RAM: 8 GB DD4
- iii. Hard Drive: 1T
- iv. Monitor: 23" flat, expanded key board & mouse
- v. UPS
- vi. Operating system: Original MS Professional 64 bit version Windows compatible with equipment and software modules supplied.

G. Tool kit:

All fittings, fasteners, tubings and other tools required to complete the test setup.

Any other tools or accessories required for the purpose of installation and running the test