



**Dept. of Applied Mechanics,
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Date: 01.11.2016

Ref. No.: APM/AARO/2016/ENQ1
20kN Universal testing machine

DUE DATE: 15.11.2016

1. Quotations are invited in duplicate for the various items shown in Enclosed list (Annexure - I).
2. Quotations are invited as TWO-BID system, i.e., **technical bid and financial bid**.
3. The Quotations duly sealed and super scribed 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.
4. The Quotations should be valid for sixty days from the due date and the period of delivery required, warranty terms etc. should also be clearly indicated. A minimum of one year warranty required.
5. Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
6. Compliancy certificate is to be provided indicating conformity to the technical specifications.
7. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
8. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses.
9. Packing and delivery charges must be clearly indicated.
10. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non-Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificate will be issued at the time of final settlement of the bill.
11. Goods should be supplied carriage paid and insured.
12. Goods shall not be supplied without an official supply order.
13. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
14. In case of LC, 90% of the payment will be made after completion of the supply. The balance 10% of the payment will be made after satisfactory installation of the software.
15. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above
16. Acceptance and Rejection: - I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully

Arockiarajan, Department of Applied Mechanics.

ANNEXURE – I

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Specification

Dual column Benchtop Frame with anti – backlash ball screws driven, max load cell capacity 50kN (with a rigidity of 120kN/mm or higher) for future upgrades

Auto-tuning function (auto gain setting): The system should be able to calculate the PID constants during the test automatically.

USB connectivity or better.

Load Capacity 20N - 20kN, with accuracy of 1%

Cross Head Speed range min with ≤ 0.001 to ≥ 1000 mm/min

Capacity at Max speed: range less. Max speed at Max Load capacity 1000mm/min. Cross head travel including wedge grips 650mm or better. Return speed 1150mm/min or better.

Speed resolution ≤ 0.02 μm , Speed accuracy ± 0.1 % or better.

Data sampling speed: 200 kHz or better.

Date capture speed: 3 kHz or better.

Display resolution: 0.001mm or better.

Explicit Needs: A. Load cell with 20kN (down to 20N) capacity B. Wedge grips for testing metals, Composites, Rigid plastics & Similar materials C. Tensile grips for testing flat and cylindrical specimens. D. Necessary couplings for compression platens E. Tensile testing wedge grips should be compatible with maximum 14mm for both flat & round specimens.

Coupling joint with jigs for attaching 100mm upper and lower compression platens (for performing compression & bending tests)

OEM manufactured Software with following features Compatible with Windows OS, Built in library of ASTM & ISO methods for testing flexible materials, Software to possess feature in adopting control type testing (User defined settings) for metals, composites & other similar materials Tabbed navigation for easy user interface Fully customizable screen layout & report format Real time data display & curves. Provision for performing atleast 500 cycles with dedicated software.

It's mandatory to have that the firm should have supplied at-least 2 UTM's to IIT's, NIT's or CSIR Institutes and a successful performance till date.

Note:

The sealed quotation to be sent to

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