



सी.एस.आई.आर-संरचनात्मक अभियांत्रिकी अनुसंधान केन्द्र
CSIR-STRUCTURAL ENGINEERING RESEARCH CENTRE

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद Council of Scientific and Industrial Research)
सी.एस.आई.आर परिसर CSIR CAMPUS, तिरुमनि TARAMANI, चेन्नै CHENNAI - 600 113. भारत INDIA
दूरभाष Tel: 044-22549108/09, 22541238 फैक्स Fax: 044-22542211 ई-मेल E-mail:puroff@serc.res.in.

TWO BID SYSTEM

Tender Enquiry No. A3(51052)2018/PUR

Dt. 24.01.2019.

EMD Amount Rs.55,000/- (Rupees fifty five thousand only).

(EMD by way of Demand Draft drawn in favour of "The Director, CSIR-SERC, Chennai"
should be submitted to CSIR-SERC on or before 12.02.2019 – 14.00 hrs. IST)

The EMD Demand Draft should be kept in a cover sealed with wax, superscripted and property identified with Tender number and addressed to the Director, CSIR-Structural Engineering Research Centre, CSIR Campus, CSIR Road, Taramani, Chennai - 600 113, India.

DUE DATE FOR SUBMISSION OF OFFER: 12.02.2019 – 14.00 hrs. IST.

The quotation (Technical bid) will be opened on 13.02.2019 at 14.30 hrs. IST.

ONLY Online e-tenders are invited under Two parts Tendering System i.e. Part-I Techno Commercial / Unpriced bid & Part -II – Priced bid for the following:-

Sl.No.	Description	Qty.
1	Supply installation and commissioning of low frequency ultrasonic tomography for non-destructive inspection of concrete, reinforced concrete and stone masonry as per detailed specifications given below:	1 No.

Specifications for low frequency ultrasonic tomography

Scanning device type	Built in matrix antenna array type
Transducers in the single unit antenna array	48 Nos.
Transducer type in the antenna array	Low frequency transverse (shear) wave transducer. Dry point contact with ceramic wear tips are preferred.
Transducer operating frequency range	25 kHz to 85 kHz
Ultrasound velocity range	1000 to 4000 m/s.
Inspection depth in concrete	Up to 2000 mm
Inspection depth in reinforced concrete	Up to 500 mm

Limits of permissible absolute measurement accuracy of the thickness, where X – thickness being measured	$\pm(0.05 \cdot X + 10)$ mm
Limits of permissible absolute measurement accuracy of the depth of the flaw location, where H – depth being measured	$\pm(0.05 \cdot H + 10)$ mm
Type of material to be scanned and its applications	Concrete, reinforced concrete, marble, granite, plastic, metal pipes, prestressing tendons Detection of cavities, voids, delaminations, cracks (concrete, reinforced concrete and stone).
Reconstruction and test time	The transit time measurement shall be analyzed using the synthetic aperture focusing technique (SAFT) to reconstruct, in real time, a 2-D image of the cross section.
	Less than 3 sec for complete data acquisition and data processing at each location
Image reconstruction	<ul style="list-style-type: none"> • 2-D images to create a 3-D model of the test object. • The user can manipulate the 3-D model by rotating it or looking at different orthogonal planes cutting through the model. • Possible scanings: A-scan, B-scan, C-scan and D-scan. The user defined specific "slices" through 3-D model by defining the Z-coordinate for a C-scan image, the Y-coordinate for a B-scan image, and the X-coordinate for a D-scan image.
Flaw location measurement range	60 to 300 mm
Power	Built in rechargeable battery of 10V, with backup time not less than 4 hrs.
Operating temperature range	-10 to 50 deg °C
Data communication with computer/laptop	USB port
Cables	Complete set of necessary cables to be supplied along with the equipment.
Software capabilities	Should display graphically voids, cavities, cracks, etc., calculate the depth of concrete member and cover thickness in engineering unit. The collected data set can be transferred to the external PC/laptop for processing. Software shall has the capability to represent collected data from the instrument as tomograms and 3D images.
Laptop requirements	Dell/ HP laptop compatible with the software and hardware of the equipment. Minimum 8 GB RAM /1 TB HDD storage

Other features	<p>Suitable lifting handles to be provided for handling. Hard carry case to be provided.</p> <p>The system should have provision to work with 230 V AC, 50 - 60 Hz mains.</p> <p>The system should have in-built colour screen display with key pad to view the processed data.</p>
Warranty	<p>The supplier shall provide warranty for a minimum of one year after installation and commissioning of the equipment.</p>
Optional	<ol style="list-style-type: none"> 1. Tool kit for checking the functioning of dry point connector (DPC) element 2. Additional DPC elements, 10 Nos.

Other Terms and Conditions:

- Installation and commissioning of the equipment shall be carried out and demonstrated by the supplier satisfactorily
- Hands-on training (two days) with typical applications shall be given to scientists and technical staff.
- Two sets of operation and maintenance manuals along with drawings shall be supplied with the equipment.
- Essential spares required after warranty period shall be quoted separately.
- The firm shall have capability to provide service support during and after warranty period.
- The quotation shall be submitted in two parts namely technical bid and commercial bid. The technical bid should contain i) Details of the firm ii) their capabilities for supply, installation, commissioning and servicing of similar equipment, iii) Detailed technical specifications of the equipment including software along with technical catalogues.

TERMS AND CONDITIONS

All the terms of supply as available in our website www.serc.res.in is applicable.

Controller of Stores & Purchase
For Director