



Indian Institute of Science, BANGALORE 560 012
Centre for Sustainable Technologies
Phone: 91-80-2334 8575 / 2293 2447
Email: chair.cst@iisc.ac.in / Website: cst.iisc.ac.in



Date: 11.10.2021

Dr. Souradeep Gupta
Assistant Professor, CST, IISc
Phones: 9538387317 | Email: souradeep@iisc.ac.in

Ref: IISC/CST/2021/UTM01(Corr)

Added specification pertaining to tender notification for the procurement of a 1000 KN Universal Testing Machine (UTM)

Kindly note the following changes to the deadline and added specifications besides what is mentioned in the original tender.

Extended last date of submission: 19 October 2021

Technical specification:

- 1) The machine shall be used for tensile/ Compression/ Bend/ Flexure/Shear/Hardness test on different concrete and ferrous samples as per IS/ASTM standards
- 2) Motor shall be directly coupled to the hydraulic pump
- 3) Must have both Load (kN/sec), stress (N/mm²/sec), Displacement (mm/sec) or Strain Control basis. Servo Hydraulic principle with servo/proportional valve to control motion of the cylinder/actuator. 10 mm stroke for deflection measurement.
- 4) At least 3 channels for transducers shall be provided. If the tenderer can offer higher number of channels, it would be considered duly. Compressometer with gauge length of 100 mm and extensometer with gauge length of 50 mm shall be provided which can be integrated with the machine and feedback to the analysis software.
- 5) Changeable Hydraulically operated front-Loading Grips for Tension test
- 6) The computer must come with the following specs:
Computer Intel i5 Processor, 320 GB HDD, 2GB RAM, DVD R/W drive, Key Board, Optical Mouse, 6USB Ports, 19" TFT Screen, Deskjet Colored Printer, UPS
- 7) The vendor must have a service team of engineers based in Bengaluru or nearby areas for quick troubleshooting and service provision in case of emergency. Turn around time of 1 to maximum of 2 days is expected.
- 8) Analysis software should provide flexibility to user to do statistical analysis of test results and report generation as per relevant standards (IS/ASTM/EN etc). Plotting of following graphs-Load v/s Time, Displacement v/s Time, Load v/s Displacement, Stress v/s Strain, Load v/s Extensometer, Extensometer v/s Time. Calculation of parameters including load and elongation at yields, peak load and displacement at break, yield stress, Modulus of Elasticity, ultimate tensile strength, compressive strength etc shall be done using the software easily.

- 9) Safety guard (polycarbonate material or similar) around the loading frame shall be provided as per the safety guidelines at IISc.
- 10) The maximum height of the machine (from base to top edge) shall be limited to 3.70 m
- 11) The supplier should have NABL accreditation.
- 12) The tenderer or its parent company should have submitted similar mechanical test equipment to central government academic institutions, renowned state government institutions or research labs in the past. Some evidence for the same shall be furnished.

Thanking you,

Dr. Souradeep Gupta

Assistant Professor

Centre for Sustainable Technologies

T: +91 9538387317| E: souradeep@iisc.ac.in