



सीएसआईआर - केन्द्रीय काँच एवं सिरामिक अनुसंधान संस्थान  
196, राजा एस सी मल्लिक रोड, कोलकाता - 700 032, भारत

CSIR - CENTRAL GLASS & CERAMIC RESEARCH INSTITUTE

196, Raja S C Mullick Road, Kolkata - 700 032, India



## CORRIGENDUM

REFERENCE NO. :- P/NC/39/SKS(KHURJA)/SO/OTE/23-24      DATE: 05/11/2024

NAME OF EQUIPMENT: "SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF DIGITAL COMPRESSION AND MOR TESTING MACHINE" [CPPP PORTAL TENDER ID: 2024\_CSIR\_210275\_1].

NOTE: The Bids must be submitted in the Central Public Procurement Portal (URL: <https://etenders.gov.in/eprocure/app>) only. Manual/Offline bids shall not be accepted under any circumstances. Bidders should quote in INR only.

CONSEQUENT TO THE PRE-BID MEETING HELD ON 14/10/2024, THE REVISED TECHNICAL SPECIFICATION IS ATTACHED IN ANNEXURE- A GIVEN BELOW:-

Further, the following changes are also made in bid opening and closing dates:-

Bid Submission End Date and Time	23/11/2024 upto 3:30 PM
Bid Opening Date and Time	25/11/2024 at 3:30 PM

All other Tender terms and conditions remain unchanged.

  
5/11/2025

(Bodhisattwa Dhar)  
Stores & Purchase Officer

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भण्डार एवं क्रय अधिकारी/Stores & Purchase Officer  
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**Digital Compression and MOR Testing Machine**

**Name of the machine:** Digital Compression and MOR Testing Machine

**Scope of the work:** Supply, installation and commissioning

**Indented use:** Measurement of compressive strength (CCS) and flexural strength (MOR) of the tiles and ceramic samples

**Technical Specification:**

**1. Sample size for MOR:**

- i. Separate attachment (3 point bending) for upto 600mm width × 600mm length
- ii. Separate attachment (3 point bending) for bar size 3mm - 25mm width (or higher range) × 20mm - 140mm length (or higher range)

**2. Platen size for Compressive strength measurement:** Compression platen (2nos- 1 each of top and bottom) with 100mm diameter

The machine should have versatile removable grips and fixtures so that it can be changed quickly to meet variable requirements in compression, flexural mode of operation

**3. Load cells, frame capacity and load application system for MOR:**

- Four numbers of load cells having capacity of

- 1) 0.5 kN
- 2) 5.0 kN
- 3) 25.0 kN
- 4) 50 kN

- Accuracy: +/-0.25% or better
- Easily interchangeable as per need
- Tools for changing the load cell must be included
- Frame Capacity should be higher than 50 kN
- Direct servo-motor for load application

**4. Separate attachment with frame CCS with load cell capacity of 2000 kN or higher, via using hydraulic system along**

- Frame capacity should be higher than 2000 kN with hydraulic system for load application

- Load vs displacement indicator with least count of 0.1 kN or less
5. **STRAIN MEASUREMENT SYSTEM:**
- Displacement and strain measurement systems should be attached with computer
6. 01 number of standard sample should be tested and verified for all load cells. (Calibration certificate for the standard should be provided as per ISO 376 or equivalent by the bidder)
7. **Crosshead speed:** 0.03-500 mm/min or wider range with emergency stop button.
8. Servo stabilizer for 8 KVA or better for the machine operation including PLC, HMI, and motor with output accuracy of +/- 2-4% or better and response time <1.6 s
9. **Operating software:**
- Controller Cum User Interface**
- The instrument should be computer connected for operation, data collection and data analysis.
- The control software shall be a true graphical user interface meeting the Microsoft Windows standards
  - The testing software along with machine must be able to perform time and displacement based compression and flexural strength testing
  - System should include and able to controlling the movement of the crosshead as a function of load, stress, strain in addition to position control
  - The software should offer the following calculations: Maximum Peak (all available channels), Minimum Peak (all available channels), Specimen Break Point (all available channels), CCS and MOR
10. **Computer, Printer and UPS:**
- HP/DELL/Lenovo or equivalent desktop computer
  - Minimum configuration: Suitable processor, 16 GB RAM, 2 TB HDD, DVD RW drive, 19 inch. monitor, Operating system: Windows 11 Professional, 64 bit, color laser printer, Microsoft Office, Adobe Acrobat Writer (for PDF conversion of Analysis reports) & UPS, Warranty: Two years
  - UPS: 600 VA, Surge protection, Input voltage: 150-290 VAC or higher
11. **Training:** Two peoples should be trained for two days at site
12. Power supply available at CGCRI, Khurja Centre: 2-Phase 230 V, 50Hz (for computer) and 3-Phase, 415 V, 50 Hz (for machine and stabilizer)
13. Installation, commissioning should be done by the supplier at buyers place (CSIR-CGCRI, Khurja, UP).

14. **Warranty:** One (01) year standard + Two (02) years extended comprehensive warranty should be provided after satisfactory installation of the instrument (from the date of installation)

15. **General Technical Terms:**

- Bidder should have experience on installation of Digital Compression and MOR Testing Machine/UTM in the reputed organizations
- Documentary evidence must be provided along with the contact details of users for verification