



INDIAN INSTITUTE OF TECHNOLOGY KANPUR
DEPARTMENT OF CIVIL ENGINEERING

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STRUCTURAL ENGINEERING LABORATORY

PO. IIT KANPUR-208016 (UP), INDIA

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Enquiry no. CE/STR/2014-15/Nov/01

Sealed quotations are invited for the supply and installation of the following equipment along with all relevant accessories.

1. Environmental Test Chamber for Concrete with following specifications:

- i. Capacity: 600 L [Internal dimensions: 1000 X 600 X 1000 mm (LXDXH)]
- ii. Temperature range: 20°C to 80 °C (+/- 1°C)
- iii. Humidity range: 40% to 95% RH (+/- 2% RH)
- iv. PID Profile Temperature & Humidity Controller (Eurotherm 2604 or equivalent)
- v. Calibration certificate traceable to NABL
- vi. PC Interface through USB for software control and data transfer
- vii. 03 nos. SS304 loading trays with 100 kg load capacity
- viii. Dry air compressor with refrigerated drier unit for Dehumidification
- ix. CFC free refrigerant; Exterior 18 SWG MS with corrosion resistant powder coating; Interior: 16 SWG SS304 with full vapour tight finish using TIG welding

Note: *There should be option for Steam curing of concrete specimens with Auto-refill of humidity water storage tank etc.*

2. Freezing and Thawing chamber for evaluation of resistance of concrete to rapid freezing and thawing cycles as per ASTM C666 with following specifications:

- i.** Specimen holder size: Approx. 1700 X 550 X 600 mm (L X WXH) to hold 16 specimen of size 75 X 75 X 400 mm
- ii.** Temperature range: -20°C to ambient).
- iii.** The apparatus shall be able to form experiment as per following procedures:
Procedure A: Specimen to be completely surrounded by water, not less than 1 mm and nor more than 3 mm, at all times while it is being subjected to freezing-and-thawing cycles.

Procedure B: Specimen to be completely surrounded by air during the freezing phase of the cycle and by water during the thawing phase.

The nominal freezing-and-thawing cycle for both procedures of this test method shall consist of alternately lowering the temperature of the specimens from 4°C to -18 °C and raising it from -18°C to 4 °C in not less than 2 nor more than 5 h. For Procedure A, not less than 25 % of the time shall be used for thawing, and for Procedure B, not less than 20 % of the time shall be used for thawing.

The other specifications for PID controller, PC Interface, SS loading trays etc. are same as mentioned for item no.1.

Note: *There should be option for inlet and outlet of carbon dioxide for concrete carbonation tests with necessary accessories e.g. High performance CO₂ regulator with pre-heater, CO₂ sensor (0-10%) with controller, safety alarm etc.*



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Kindly send your offer (original, signed with the name of signing authority) in a sealed envelope, for the above items mentioning the following:

1. Cost of the item (mention cost of each item separately) including installation charges with technical specifications in detail
2. Cost of the accessories are to be mentioned separately
3. Freight, packing etc. charges
4. Warranty period
5. Delivery time
6. Educational discount considering usage for teaching and research
7. Payment terms
8. Experience of manufacturing environmental chambers (in years)
9. Provide contact details (telephone and e-mail) for 05 most recent installations.
10. Availability of local service support (details with contact number/e-mail).
11. Your acceptance for arranging a visit of the technical evaluation committee to witness the environmental chamber at your works or any other client's location (local transportation and logistics arrangements are to be taken care by you) for the verification of the technical specifications prior to dispatch, if so desired by the technical evaluation committee.
12. Any other relevant details.

An early reply latest by 01 December will be highly appreciated.

Thanking you...

Sincerely

Sudhir Misra