

Technical Specifications for ‘Concrete Rheometer’**1.0 General Specifications**

The concrete rheometer must be automated with a measuring range of soft and stiff suspensions, including zero slump concrete, as well as dry powders. The machine should be able to measure fibrous suspensions as well as mortar and concrete, specifically 3D printable concrete. Additionally, long-term testing (several hours) should be possible without interruption.

2.0	Bidder Eligibility Criteria-	Compliance (Yes/No)	Reference Page No.
1	The Bidder must be an original equipment manufacturer or an authorized agent/dealer/seller of the item. The Bidder should have supplied at least 5 similar units at other IITs/ NITs or national laboratories and research centres (DRDO/CSIR/DST/BARC/IGCAR), or R&D centres of reputed multinational companies such as L&T and Ultratech, or globally recognized universities, in the last 5 years. PO copy or performance certificate, along with contact details (for these organizations) needs to be submitted. IIT Madras reserves rights to contact past end users for feedback and in case of any adverse feedback the bidder will be technically disqualified.		

3.0 Technical Requirements for Rheometer

S.NO	Technical Specifications	Comply / Not Comply	Catalogue Page No
1.	Rheometer designed for concrete, mortar, and paste testing, with multiple mixing bowls of sizes between 5 and 20 litres (the smallest and largest bowls are to be compulsorily quoted; others can be included as optional items).		
2.	Impeller geometry – Vane geometry is compulsory; other geometries can also be optionally quoted.		
3.	Torque capacity should be > 90 N.m in coaxial arrangement, with an accuracy of better than ± 0.1 N.m.		
4.	Rotation speeds > 100 rpm in coaxial arrangement		
5.	Maximum aggregate size – 25.4 mm		
6.	Long-term testing over a few hours should be available.		
7.	Instrument should be operable at 220 V and 50 Hz AC single or three phase.		
8.	The instrument shall be fully automatic and capable of transmission of data to a computer through an inbuilt USB port. Computer for data analysis and operation should be provided with the instrument		
9.	All the safety-related concerns must be stated, and details of functional access provided for safety-related problems should be mentioned in detail.		

4.0 GENERAL TERMS AND CONDITIONS

S.NO	General Terms And Conditions	Comply / Not Comply	Reference Page No.
1.	The system should be delivered within 14-16 weeks from the opening of the letter of credit or issue of the purchase order, whichever is later.		
2.	Costs and related information should be given only in the financial bid.		
3.	The cost should include 12 months warranty of the overall system and all delivery costs up to IIT Madras		
4.	Optional additional warranty for another 12 months should be quoted separately		
5.	The warranty shall commence only from the date of equipment installation at IITM.		
6.	Prices quoted should be valid for at least 90 days.		
7.	Item-wise break up of cost should be provided in the commercial bid for optional items and accessories.		
8.	IIT Madras reserves the right to exclude some items from the purchase. As part of tender technical evaluation, IIT Madras will approach the past end users for feedback and in case of any adverse feedback the bidder will be technically disqualified.		
9.	The system should be installed and commissioned with no additional cost.		
10.	Training at IIT Madras should be provided with no additional cost.		
11.	System manual should be provided in CD or pen drive form.		
12.	Services and spares should be necessarily available within India.		

Technical Bid should comprise of the following:	Comply / Not Comply	Reference Page No.
Detailed Technical brochure		
Detailed technical write up explaining how each of the Technical Specifications are complied with		
The vendor should guarantee round the clock technical support not only during the warranty period but even beyond through an annual maintenance contract. Demonstration of having provided such satisfactory technical support to customers shall be enclosed with the technical bid.		

(Note: It is mandatory for the bidders to submit a compliance statement for the aforementioned points in tabular format and required/necessary documents in the technical bid. Failure to comply with which bidders will be formally rejected)