



**Pre-bid Meeting (ONLINE Mode) held on 16-12-2021 at 1130 hours**

**Tender No.: IITPKD/PRJ/SC/2021-22/31dated 07-12-21**

**UNIAXIAL COMPRESSIVE LOADING CONTACT CONDUCTANCE  
MEASUREMENT SYSTEM**

**Table-A** indicates the Authorized Representatives of the firms participated in the Pre-bid Meeting.

**Table-A**

S. No.	Name of the Firm and details of the Authorized Representative(s) participated
1.	Mr. Subash Pai – Excel Instruments, Maharashtra

**Table-B** indicates the queries raised by the bidders and the clarifications provided by the institute.

M/s Excel Instruments, Maharashtra		
S. No.	Query	Clarification
1.	Heater: it is mentioned as cartridge heater 200W to 250W but no temperature is mentioned. We at least require temperature of free standing heater (no mechanical load) to decide the heater shape, material and size	The isothermal block (upper copper block) under the heater should be able to give a temperature ranging from 40°C to 300°C. The isothermal block will have the same diameter as that of the specimen, i.e 25 mm.
2.	There is no mention of any PID controller or power supply for Heater. If you have a DC supply (as mentioned by you ) please let us know the voltage and current as the cartridge heater needs to be compatible with this voltage range. Also we need to know what thermocouple to provide as you would like to know the temperature also as per discussion today.  If PID controller fits into the budget I have provided we will surely include it but we would like to see it mentioned in tender technical details	The existing DC power supply need not be used and we request you to proceed with the AC power supply and compatible PID controller as you mentioned.

3.	<p>Heat flux meter: 0 to 1 W/mm<sup>2</sup> , Preferably ARMCO made. is mentioned in the tender. IT will be useful if we get part number or link to this flux meter. looks like this is imported and may also be expensive as well as delivery time I need to find out. So please provide the same at the earliest</p>	<p>As discussed in the meeting, the copper block with thermocouples can be used as a heat flux meter.</p> <p>In that case, 18 thermocouples will be required to take temperature data from the two specimens. Additionally, thermocouples will be required for the heat flux meter (copper block), heater PID controller, isothermal block and heat sink surface for temperature recording.</p> <p>The thermocouples with thermocouples feed through have to be delivered by the vendor.</p>
4.	<p>Insulation block: Suitable one, Preferably Isomag 175 is mentioned. If dimensions of this block are provided it will help us to get pricing for this. This also looks like something to be imported.</p> <p>Since we need to fill up local content it is important to know the import content too</p>	<ul style="list-style-type: none"> <li>● Two insulation blocks are required to thermally isolate the heating system and mechanical loading system in the setup. The top one is to be placed between the heater and the top pressure loading plate. Whereas the bottom insulation block is to be placed between the heat sink and lower pressure loading plate/base.</li> <li>● For lower insulation block</li> <li>● Insulation block has to be maintained at a temperature of -40°C (lowest heat sink temperature) at the top side and 25°C (room temperature i.e loading plate temperature) at the bottom side.</li> <li>● For upper insulation block</li> <li>● Insulation block has to be maintained at a temperature of 25°C (room temperature i.e loading plate temperature) at the top side and heater temperature at the bottom side.</li> <li>● Insulation block dimensions</li> <li>● Diameter = 50 mm</li> <li>● The thickness of insulation block required (t) and thermal conductivity (k)</li> <li>● For <b>Isomag® 175</b> material you can take a thickness of t = 30 mm and</li> <li>● For any other material (with required compressive strength of 20 MPa) the thickness needs to be appropriately calculated based on the difference of temperature between the heater temperature (approx 300 °C) and upper plate temperature (25°C). The thermal conductivity of the insulation material should be preferably below 1 W/mK. The value of insulation thickness can be finalized during the final design approval stage.</li> </ul>

5.	One point missed was regarding radiation shielding. TO implement this, we need to know what temperature we are shielding. So please provide temperature of specimen etc where the shielding is to be provided.	The radiation shield has to cover the test specimen's maximum at 300°C.
6.	If PO is received by us, we will have a final design	OK
7.	Payment 100% after installation and acceptance is fine with us. You have informed that as soon as system reaches it can be installed.	OK
8.	Delivery of 3 months is fine for us and if there is no delay in procuring outsourced items like pump, gauge, and other imported parts (if at all) we should be able to delivery this within 2 months of approval of drawing	OK

**REGISTRAR**