

## TECHNICAL SPECIFICATIONS FOR OPTICAL THERMAL ANALYSIS STAGE AND ITS RELATED ACCESSORIES

A purchase of Optical Thermal Analysis Stage setup is planned. The Optical Thermal Analysis Stage must support and facilitate imaging and DSC (differential scanning calorimetry) for both reflected and transmitted light microscopy. The Optical Thermal Analysis Stage allows researchers to measure the transformation temperatures and latent heat of materials while simultaneously imaging their microstructure. Below, is the detailed technical specifications of the optical thermal analysis stage.

### TECHNICAL SPECIFICATIONS

**Scope of work:** Supply, installation, and commissioning of Optical Thermal Analysis Stage setup.

OPTICAL THERMAL ANALYSIS STAGE		
<b>1</b>	<b>Equipment details</b>	<ul style="list-style-type: none"> <li>• <b>Temperature Range:</b> Must support a temperature range from -150°C to 600°C.</li> <li>• <b>Heating and Cooling Rates:</b> Precise control over heating and cooling rates from 0.25°C to 50°C/min.</li> <li>• <b>Cooling options:</b> Must have support for below-room temperature operation with liquid nitrogen pumping system</li> <li>• <b>Compatibility:</b> Must be compatible with Olympus BX53M Upright Metallurgical Microscope with proper clamping options.</li> <li>• <b>Temperature Stability:</b> Stability of temperature control within &lt; 0.5°C.</li> <li>• <b>Software:</b> The manufacturer must provide necessary software for a compatible computer to <i>control</i> the Optical Thermal Analysis Stage and <i>collect</i> and <i>analyze DSC data</i> from its systems.</li> </ul>
<b>2</b>	<b>Pre-dispatch inspection</b>	<ul style="list-style-type: none"> <li>• Equipment should be checked before shipping. Data should be shared with IISc, and approval should be obtained before shipping.</li> </ul>
<b>3</b>	<b>Acceptance</b>	<ul style="list-style-type: none"> <li>• The supplier must demonstrate all the functions of the system according to the specifications after successful commissioning at IISc</li> <li>• Within one week of delivery, if the supplier is unable to demonstrate the functioning of the equipment, then the tender will be canceled.</li> </ul>

## TERMS AND CONDITIONS

1. Two-bid system (separate technical and financial bids) in sealed tenders.
2. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under each subhead and bullet point. Unique characteristics may be highlighted.
3. Vendors who include price information in the technical bids will be automatically disqualified.
4. The quote should come only from an Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
5. The quotations should be on FOR-IISc Bangalore basis in INR only.
6. **The Vendors must have supplied at least 5 testing systems. Preference will be given to the vendor who has supplied it to centrally funded technical institutes (IISc, IITs, NITs, etc.) and national research labs (DAE, DRDO, DMRL, NAL, NML, and equivalent) in the last 5 years. A detailed list of users, along with contact information of primary users, should be provided.**
7. **At least 3 independent reference letters from India (from institutions mentioned in point 4) should be provided at the time of submission of tender (as part of the technical bid). IISc may contact more users to obtain independent references. The committee will have the right to reject a bid based on reference letters.**
8. The financial turnover of the equipment manufacturer in the previous financial year should be more than or equal to 10 times the total order value. The bidder shall furnish specific details of the company's performance.
9. **Technical bids will be opened first. IISc may seek clarifications after opening technical bids and may ask vendors to perform some example experiments on the samples given by IISc to demonstrate the promised technical specifications. Vendors may be required to give presentations.**
10. There are several items that require detailed information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier.
11. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate the comparison of prices.
12. Price bids of only technically qualified vendors will be considered.
13. **Prices are to be quoted separately for the system with mandatory requirements and optional items. Prices should be quoted in adequate detail with relation to packing details to cover insurance compensation in case of damage to any specific modules.**
14. Indicate separately the price of spares listed above in terms of unit cost. The price of these spares will be included in the price comparison. Any additional spares recommended by the company will be considered for ordering but not included in the comparison. The buyer reserves the right to make the final decision on ordered spares.
15. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
16. Indicate the delivery period.
17. Order will be placed on the lowest bid from a technically qualified vendor.
18. The tender documents can be sent to the following address by **10<sup>th</sup> August 2024**:

The Chairman  
Department of Aerospace Engineering  
Indian Institute of Science, Bangalore 560012  
Karnataka  
India  
Contact person: Vivekanand Dabade (dabade@iisc.ac.in)

Annexure-I

MANUFACTURER's AUTHORISATION FORM

[The bidder shall require the manufacturer to fill in this form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by the person with the proper authority to sign documents that are binding on the Manufacturer.]

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

To: The Chair, Department of Aerospace Engineering, IISc, Bengaluru 560012

We [insert complete name of Manufacturer], who are official manufacturers of [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder] to submit a bid, the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to negotiate and sign the Contract subsequently.

We hereby extend our full guarantee and warranty with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this authorization on behalf of: [insert complete name of Bidder]