

CSIR- NATIONAL PHYSICAL LABORATORY

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From: Director, CSIR-NPL

Ref No. 14-VIII/BG(17-OTE)2024PB/T-152

Dated : 08.01.2025

CORRIGENDUM

With reference to NPL's Global Tender ID: **2024_CSIR_219878_1**, for the procurement of "Seebeck Instrument". Consequent upon the outcome of PBC, **some changes have been made in the technical specification of captioned tender. Revised specifications are as follows:**

Final Specs after Pre-Bid Meeting

Annexure-1

Technical Specifications of Seebeck Instrument

1. It should be able to measure Seebeck Coefficient and Electric Resistivity simultaneously.
 - a) Instrument must be capable of measuring resistivity and Seebeck coefficients of polymers, Oxides, ceramics, alloys, composites and inorganic materials
 - b) Instrument must be capable of measuring thin film samples also.
2. Temperature Range : Room Temperature to 800C.
3. It should be able to measure high resistance samples upto 10M Ω .
4. Temperature Accuracy : $\pm 5\%$ or better
5. Vacuum: 10^{-3} mbar or better
6. Measurement Atmosphere: Low pressure He gas
7. Temperature Controller PID control; Programmable temperature controller with facility to control temperature at both ends of the sample.
8. Seebeck Co-efficient Measurement Range: $1\mu\text{V/K}$ to 2000 $\mu\text{V/K}$ with Accuracy: $\pm 7\%$ or better.
9. Resistance Measurement: Four Probe Method Range 50 $\mu\Omega$ to 10M Ω with Accuracy: $\pm 10\%$ or better
10. Contact checking, I-V measurements should be possible to check the contact between probe and sample.

11. Sample Geometry and Dimension: a) Circular samples of Dia 10mm and 12.7 m, b) Square Samples of 5mm (l) and 5mm (w), c) Rectangular Bar: 6 to 20mm (l) and 2 to 4mm (w) and 2-4mm (t).
12. Calibrations and Standards Sample: Certified Reference sample/samples must be provided for the entire temperature range from RT to 800 C.
13. Installation and training: a) The delivery should be considered complete only after successful installation of the instrument. b) The pre-installation requirements should be communicated to CSIR-NPL well in advance of the installation. c) The training must be provided to CSIR-NPL staffs.
14. Data Acquisition System: Automatic measurement of the Seebeck Coefficient and Electrical Resistivity of the sample. Computer & Monitor: CPU intel core i5 or higher, 8GB RAM or higher, HDD 500GB or higher, Monitor at least 25 inches, Printer and Key Board.
15. The supplier should upgrade the software as and when the upgradation available for at least five years at free of cost.
16. The supplier should provide suitable Cooling water circulation unit, hoses, cables etc requires for the measurement.
17. The vendor must demonstrate all the mentioned specifications along with the accuracy of the measurement on the certified reference sample.
18. Manufacturer should provide services and supply the accessories on demand for the next 10 years after installation of the equipment.
19. Warranty: 12 months after the successful installation.

Therefore, following extension in due date of submission & date of opening of the said tender may be read exactly as follows:

Due date & time of tender submission

For : 20.01.2025 up to 3.00PM (IST)

Read as : 30.01.2025 up to 3.00PM (IST)

Date & Time of Tender Opening

For : 21.01.2025 at 3:00PM (IST)

Read as : 31.01.2025 at 3.00PM (IST)

All other terms & conditions of said tender will remain the same.


Sr. Controller of Stores & Purchase
Dated 21/1/25

Pre-bid Meeting (To be typed clearly by the I/O)

Name of Indentor: **Dr. Bhasker Gahtori**

Indent No.: **PR4030542024**

Item Description: **Seebeck Instrument**

Project No.: **OLP 240432**

Estimated Cost (in INR): **100 Lakhs**

No. of Budgetary Quotes: **Two**

(1) A pre-bid meeting of TSC was held on **31-12-2024**.

(2) Following queries were raised by participating Bidders:

| Name of the Firm | Queries Raised | Remarks, if any |
|--|---|------------------------|
| 1. M/S SYINCO TECHNOLOGIES., Hyderabad 500068, Telangana, India | <p>S.No. 11(a) Circular samples of Dia 10mm, 12.7 mm and 15mm. At the moment, their ZEM system is available to measure Disc shape sample for ϕ10mm, 12.7mm not for 15mm</p> <p>15mm sample measurement data will be technically uncertainty.</p> <p>Changes Required:</p> <p>11 (a). Sample Geometry and Dimension: a) Circular samples of Dia 10mm and 12.7 mm only.</p> <p>S.No. 11.c: Rectangular Bar: 6 to 20mm (l) and 2 to 8mm (w) and 2-4mm (t). The Sample width is available for Width 2-4mm. 8mm width sample measurement data will be technically uncertainty.</p> <p>changes required:</p> <p>Rectangular Bar: 6 to 20mm (l) and 2 to 4mm (w) and 2-4mm (t).</p> | |
| 2. Linseis Thermal Analysis India, Dwarka , New Delhi 110077 | No Queries | |

Indentor's recommendation

1. The comments, as received from bidders during PBC, and our response is as follows:

| Tender Specification and its number | Comment of bidder | Response of Indentor (Accepted/ Not accepted) | Revised specification (If any) | Justification for non-acceptance |
|--|--|---|--|----------------------------------|
| <p>S.No. 11(a) Circular samples of Dia 10mm, 12.7 mm and 15mm.</p> | <p>1. As per M/S SYINCO TECHNOLOGIES., Circular samples of Dia 10mm, 12.7 mm and 15mm. At the moment, their ZEM system is available to measure Disc shape sample for ϕ10mm, 12.7mm not for 15mm. 15mm sample measurement data will be technically uncertainty.</p> <p>Changes Required: Circular samples of Dia 10mm and 12.7 mm only.</p> | Accepted | <p>S.No. 11(a): Circular samples of Dia 10mm and 12.7 mm.</p> | |
| <p>S.No. 11 (c) Rectangular Bar: 6 to 20mm (l) and 2 to 8mm (w) and 2-4mm (t).</p> | <p>2. As per M/S SYINCO TECHNOLOGIES., Rectangular Bar: 6 to 20mm (l) and 2 to 8mm (w) and 2-4mm (t). The Sample width is available for Width 2-4mm. 8mm width sample measurement data will be technically uncertainty.</p> <p>Changes Required: Rectangular Bar: 6 to 20mm (l) and 2 to 4mm (w) and 2-4mm (t).</p> | Accepted | <p>S.No. 11 (c): Rectangular Bar: 6 to 20mm (l) and 2 to 4mm (w) and 2-4mm (t).</p> | |
| <p>S. No. 17: UPS: Suitable UPS for the complete system with 30 min power backup.</p> | <p>24x7 supply is already there in the building. So, S. No. 17 may be deleted.</p> | Accepted | <p>S. No. 17: Deleted</p> | |

TSC Minutes

Based on the Pre-bid meeting and recommendation of I/O, following changes have been made in the specifications:

| Original Specifications | Final Specifications |
|--|--|
| <p>S.No. 11: Sample Geometry and Dimension: a) Circular samples of Dia 10mm, 12.7 mm and 15mm, b) Square Samples of 5mm (l) and 5mm (w), c) Rectangular Bar: 6 to 20mm (l) and 2 to 8mm (w) and 2-4mm (t).</p> <p>S. No. 17: UPS: Suitable UPS for the complete system with 30 min power backup.</p> | <p>S.No. 11: Sample Geometry and Dimension: a) Circular samples of Dia 10mm and 12.7 mm b) Square Samples of 5mm (l) and 5mm (w), c) Rectangular Bar: 6 to 20mm (l) and 2 to 4mm (w) and 2-4mm (t).</p> <p>S. No. 17: Removed.</p> |