

Specification of Thin Film Thickness Measuring Equipment

A. Main Features:

1. Double spectrometer, A / D converter, reflection probe and suitable software.
The software should operate under latest Windows XP environment.
2. Wave length of halogen light source - 400 – 1100 nm
3. Thickness range - 50 nm – 100 μ m
4. Absolute accuracy - < 1 % (100 nm – 100 μ m)
5. Number of layers - 1 to 4 (with the help of suitable software)
6. Angle of incidence - 90° (normal incidence)
7. Fiber length - 2 m or more
8. Interface - USB / RS232
9. Input power - 90 – 240 V A.C. 50 Hz , 1 – phase.

B. Test requirements:

1. The equipment should be capable of measuring thickness of layers in the range 50 nm to 100 μ m. Standard **sample** substrates with layers in this thickness range should be supplied along with the equipment. These should be used to demonstrate the use of equipment as well as its calibration at site at Corporate R&D, BHEL, Hyderabad, India.

C. Software:

1. The software should be compatible with Microsoft Office products and it should operate under **Latest Windows XP Environment**.
2. **Latest PC along with LCD monitor (17") & printer**
to be provided with details. All catalogues related to Software / Hardware to be provided. It is preferable to supply PC available in India with software loaded and integrated with the system.

D. Power Input:

1. Should be designed for use with 230 V \pm 10% (1 phase) with a mains frequency of 50 \pm 1% Hz.
2. Suitable UPS (reputed make) with backup power of up to 30 minutes to be quoted with details.

E. Qualification Criteria & Other aspects:

1. The vendor **should have supplied minimum two such equipments in India or elsewhere and details should be furnished.**
2. Should have agents in India to provide after sales service and maintenance.
3. The equipment should be Guaranteed for a period of **2 years** from the date of commissioning. During warranty period, if there is any repair to be carried out at the suppliers works, transportation cost of equipment / component besides repair

- / replacement charges, if any, should be borne by the supplier.
4. **Catalogue related to each and every item should be enclosed.**
 5. Dimensions of equipment, weight and space requirements to be given
 6. **Pre-installation requirements should be furnished.**
 7. Installation & commissioning of the equipment to be carried out by supplier at site at Corporate R&D, BHEL, Hyderabad, India. Training to be provided at Corp. R&D, BHEL, Hyderabad.
 8. Commissioning charges, if any, to be indicated.
 9. Compliance statement of specification to be submitted along with the offer. Without compliance statement, the offer is liable to be rejected. All tender Specifications to be compared with equipment offered line by line and documentary evidence must be enclosed by the supplier along with quotation.
 10. Two copies of operating manual to be provided.

F. Technical & Commercial bid submission:

A. Technical offer with all catalogues should be provided.

B. Compliance statement meeting the specification line by line should be provided.

C. UNPRICED PRICE BID (no price) should be submitted

D. Commercial bid (PRICED BID) along with terms and conditions to be submitted in a separate Sealed Cover

Note: All covers should be clearly marked indicating the contents and should be SEALED.

For any Technical Clarification, please contact :

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