Institute of Physics

(An autonomous Research Institute of Dept. of Atomic Energy, Govt. of India)

P:O: Sainik School, Bhubaneswar – 751 005, India

GLOBAL TENDER NOTICE NO. 04/2008-09

Last date of receipt of the sealed quotations: Upto 3 P.M. of 21.04.2009

Sealed quotations are invited from leading manufacturers and / or their accredited associates for supply, installation, testing & commissioning of

1. **Glancing Angle Deposition (GLAD) Compatible DC/RF Sputtering System– 01 No.**

Detailed technical specifications and other terms & conditions for supply of the above equipment can be obtained by downloading the same from the Institute's official website: www.iopb.res.in . Quotations should be submitted in sealed envelopes in two parts separately, i.e. "Technical bid" (Part- A) & "Financial bid" (Part-B). Both the parts should be further sealed in an envelope super scribing the name of the Item & address to "The Director, Institute of Physics, Sainik School, Bhubaneswar, Orissa-751005".

The technical bid will be opened on 22.04.2009 at 11.00 AM. The price Bid of the only technically qualified bidders will be opened at a later date with prior intimation to the respective bidders.

The Institute reserves the right to accept or reject any or all quotations either in full or in part without assigning any reasons thereof.

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TECHINICAL SPECIFICATION

For Glancing angle deposition (GLAD) Compatible DC/RF Sputtering System

1) Sputtering chamber: 14" dia. spherical chamber (SS 304) with ports as given below.

a) Pumping port CF150 1no.
b) Sample port CF150, 1 no.
c) Emergency sample loading port CF150
d) Sputter source port CF100, 5 nos. (4 nos. will be for Confocal sputtering and 1 no will be for GLAD or thickness monitor)
e) Load lock port or CF63
f) RGA port CF40 1 no
g) View ports CF40 2 nos. with manually operated shutter
h) Gauge port CF40 1 no
i) Gauge port (Pirani) CF16, 1 no
j) Air inlet port, gas inlet port CF 16, 2 nos
k) Pyrometer port CF40 1no
l) Ion source port CF40 1 no

Note: The chamber should be designed for sputtering films having co-deposition as well as multilayer deposition capabilities. Base pressure better than 2×10^{-7} Torr and leak rate less than 10^{-9} Torr-lit/s

2) Substrate stage: rotating sample stage with radiation heater up to 800°C, with PID programmable multilevel temperature controller. Manual in and out movement (50 mm), all feed throughs (electrical and rotation) should be UHV compatible, and to have PID programmable temperature controller. Provision for loading multiple smaller (say, 1 cm×1 cm) samples (clip mounting). Arrangement for loading sample through load lock.

3) Sputter magnetron sources: CF100 Flange mounted magnetron sputter sources with in-built shutter (for non magnetic materials) Capability for 2" dia. targets

4) GLAD attachment for room temperature deposition with programmable tilt and programmable rotation (including Windows based software)

5) Optional (Instead of item 4) GLAD attachment with manual tilt and motorized rotation

6) Gas inlet valve: SS bellow sealed. Swagelok make

7) Frame for the system with castor wheels etc.

8) Instrumentation rack for all the power supplies, controls etc.

9) Load lock assembly with appropriate ports for gauge, pump, viewing etc.

10) Gate valve CF150 for pump port on the main chamber

11) CF63 gate valve for load lock assembly (**2 nos.**)

12) Appropriate lighting arrangement to see inside the chamber

13) DC power supply for Plasma oxidation/nitridation (Aplab make: 1KV, 1 Amp with short circuit protection) within the load lock chamber. For this purpose, two parallel plates to be arranged within the load lock chamber with proper vacuum compatible electrical feedthroughs

14) Thickness monitor mounted on CF100 flange with bellow sealed mechanism for moving it in and out

15) "Suit case" arrangement for carrying the sample (after taking out trough the load lock chamber) into another chamber in controlled atmosphere

16) Water chiller (Cooling capacity: 0.75TR): PID controlled temperature setting, very low noise and exhausting capability for heat.

17) Mass flow controller (Flow: 100 sccm max.) with display controller: 4 nos.

18) Manifold for combining 4 gases with bellow sealed swagelock valves

19) Chamber baking arrangement for 100°C with high quality silicon coated heating tapes and programmable temperature controller

System integration with sputter source power supplies, mass flow controllers, and pumping systems needs to be done.

Optional item(s):

1) 2" dia. magnetron sputtering guns for magnetic materials mounted on CF100 flange with in-built shutter.

Commercial Terms & Conditions:

1. Price:

The price required to be quoted on Ex-works and FOB (inclusive of necessary export Packing cost). This does not include the applicable duties & taxes. The price quoted in the tender required to be quoted in ink, both in figures & words. In case of any discrepancy, the rate quoted in figures will be accepted.

2. Price Validity: -

The price validity of the quotation should not be less than six months from the date of opening of the tender.

3. Specification and quantity: -

The specification as well as the configuration and quantity of the equipment are required to be strictly as per the requirement of the indenter.

4. Payment: -

The payment will be made against letter of credit (L/C). 90% of the L/C value will be released against successful delivery of the consignment at IOP site and balance 10% will be released after successful installation, commissioning of the system against submission of performance bank guarantee of equivalent amount (10%) valid for the entire warranty period. The bank guarantee required to be issued by a nationalized bank.

5. **Bank charges:** -

The bank charges inside India to the applicant account and outside India to the beneficiary account.

6. **Warranty:** -

The system required to be warranted against manufacturing and functional defects for 1 year or 15 months from the date of successful completion of installation, commissioning.

7. **Liquidated damage**: -

The liquidated damage is to be collected @ 0.5% of the total value per delayed week or part thereof or 5% (aggregate) of the total order value if such case arises.

8. **Installation and testing: -**

Installation and testing of the system at our site with your Instruments, accessories, tools & tackles; deploying appropriate manpower as required, at your cost.

9. **Supply of spares**:

Supply of spares should be ensured for at least for 3 years from the date of supply.

10. **Experience**:

Details of the client list for supplying similar type of instruments have to be submitted.

11. **Agent:**

An Indian agent, if any, who will participate in this Tender on behalf of one manufacturer, will not be eligible to represent another manufacturer.

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