



**Department of Chemical Engineering  
Indian Institute of Technology Madras  
Chennai – 600036, India**

**Dr. Ethayaraja Mani**  
Assistant Professor

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**Ref. No. CHE/2013/04/Dr. Ethayaraja**

**Date : 04-04-2013**

**Due Date: 25-04-2013**

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**Thermal Metal Evaporator**

1. Quotations are invited in duplicate for the various items shown overleaf (in Annexure I). The quotations are to be in **two-bid** system as: Technical bid and commercial bid. Two parts of the offer are to be clearly marked on the envelopes. The two parts of the offer in a separate envelope must be enclosed in the one bigger envelop duly sealed and super scribed with reference number and due date, and should be addressed to the undersigned so as to reach him on or before the due date mentioned above.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
4. Terms of warranty and guarantee should be explicitly mentioned.
5. Packing and delivery charges, customs and clearance duty should be clearly stated.
6. Goods shall not be supplied without an official supply order.
7. Local firms: Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
9. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
10. Payment: Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.

12. In case of any queries/clarifications, please contact Dr. Ethayaraja Mani, Chemical Engineering, IIT Madras, Chennai, at +91-44-22574157 (office), +91-9655498769 (mobile no.) and/or [ethaya@iitm.ac.in](mailto:ethaya@iitm.ac.in) (e- mail).
13. The sealed quotation may be sent to

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**Assistant Professor**  
**Department of Chemical Engineering**  
**IIT Madras, Chennai – 600036 .**  
**India**



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**Annexure-I**

**Technical Specifications: Thermal Metal Evaporator**

The above equipment is required to coat (partially or fully) polymer latex particles (size range 500 nanometer to 5 micrometer) with metal vapors like gold, silver and copper. The latex particles will be first assembled as monolayer on a substrate like glass or silicon wafer. Then the monolayer of particles should be coated with metal vapor for selective chemical functionalization of the particle surface.

| <b>Item</b>              | <b>Description</b>  |
|--------------------------|---|
| Thermal metal evaporator | <ol style="list-style-type: none"><li>1) High vacuum thermal metal evaporator capable of evaporating variety of metals such as Au, Ag, Cu.</li><li>2) Minimum vacuum of <math>10^{-6}</math> mbar.</li><li>3) Upward evaporation scheme (source at the bottom and sample at the top)</li><li>4) Minimum working distance between source and sample should be 15 cm.</li><li>5) Glass chamber unit</li><li>6) Aperture cleaning insert</li><li>7) Control interface unit</li></ol> |
| Accessories              | <ol style="list-style-type: none"><li>1) Full range vacuum gauge assembly</li><li>2) Rotary pump</li><li>3) Other necessary accessories</li></ol>   |
| Consumables              | <ol style="list-style-type: none"><li>1) Au source (2 Nos.)</li><li>2) Evaporation source boat/crucibles</li></ol>  |