**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**
**Department of Chemical Engineering**

Enquiry No.: IITK/CHE/NT/2014-2015/06
Opening Date: 16/12/2014
Closing Date: 13/01/2015

Sub: Probe based Spectroscopic Reflectance System for measurement of Thin Films thickness

Fibre-optic Probe based spectroscopy System for real-time measurement and analysis of thickness as well as optical constants and suitable for measurement of liquid films deposited on substrates.

The sample liquid films to be measured will be on a slow moving vertical dipstick.

High resolution Spectrometer System having Si CCD Detector

Wavelength Range : 700nm – 1000nm

Wavelength Resolution : < 0.25 nm

Fast data acquisition times of the order of 10 – 20ms for measurement of flowing films

Film Thickness measurement Range: 1µm - 400µm

Thickness Measurement Precision : < 0.1 nm or 0.1% whichever greater.

Reflectance Probe: Silica Fibre Probe 400 µm core with SMA Connector

Reflectance Precision : 0.005 ( 0.5% )

Light Source : Tungsten Halogen Lamp 5 Watts with typical life about 10000 hours.

Spot sizes required: 8 µm, 20 µm and 40 µm with suitable Objectives

Reference Samples required: Glass Slide and black Pad (Calibration Set) and

Test Sample required: $SiO_2$ Wafer 200nm for test measurement

Software: PC based Thin-film Analysis Software with integrated Spectrometer Control and Data Acquisition. Should support multilayer simulation, calculations like Regression/Curve fitting and FFT thickness estimate and Sensitivity Analysis.

Should include extensive Materials Library of at least 500 materials plus second software License for Offline Data Analysis.

Kinetic measurement Software to support continuous measurement with specified time Intervals, real-time Display of the measured Parameters and running Statistics.

Microscope Head installed on a vertical Stand and solid Platform base.

Horizontal Microscope Head with reflectance Probe Adapter and NIR objectives 10x, 20x, 50x with Fine focusing adjustment.

Should have a long parfocal length working distance of 95mm.

Should be supplied with Windows 7 based PC/Laptop Data Station for control, acquisition and analysis of System.

Other Tender Criteria

- Authorization certificated required along with the Quotation
- Only Bidders with good record of supply and after-sale support in India can quote.

- Technical and financial details should be in separate envelope. In the document for technical bid, mention in tabular form the compliance to each of the above specifications.
- All quotations must reach undersigned on or before 13/01/2015 at 1500 hrs.
- Quotation must be valid for 90 days.
- Delivery period should not be more than **8 weeks**.
- IITK is exempted from excise/custom duty.
- Send complete detail of the product(s).
- Warranty/Guarantee should be clearly mentioned.
- Payment terms will be as per IIT Kanpur rules.
- The rate quoted should be inclusive of sales tax and other taxes including freight charges (if any).
- All prices are to be FOB to the nearest international airport to the shipping facility.
- The Institute reserves the right of accepting or rejecting any quotations without assigning any reason thereof.

Address:
Dr. Naveen Tiwari
Department of Chemical Engineering,
IIT Kanpur, Kanpur, UP 208016.