

Corrigendum

TENDER NO: X- 65/15-16/Purchase
Tender ID: 2016_ICFRE_71409_1

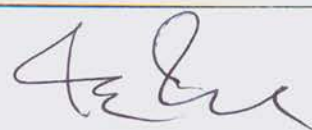
The specifications of following items are revised in pre bid meeting. The revision is given in bold letters. The specifications of other items are unchanged.

Item No. 4. Digital Polarimeter

Specification:

Automated Digital Polarimeter with the following features & specifications:

1.	Measuring Scale	⁰ Optical Rotation
		⁰ Specific Rotation
		% Concentration
		Sugar degree
2.	Optical rotation specifications	
3.	a. Measuring Range:	$\pm 89.9^{\circ}$
	b. Resolution	0.001°
	c. Accuracy	$\pm 0.005^{\circ}$ for the entire measuring range
	d. Repeatability:	$\pm 0.005^{\circ}$
3.	Light source and Wavelength	Tungsten halogen lamp; 589 nm
4.	Optical cell:	Both Stainless steel cell and glass cell with automatic detection and easy to clean from both the ends.
5.	Prism	Carbon crystalline structure similar to diamond with excellent light transmission characteristics along with life time warranty
5.	Path Length:	200 mm with 2 ml volume & a small micro cell of 2.5 mm path length for dark colored sample analysis
6.	Temperature probe range	10 ⁰C to 60 ⁰C inbuilt automatically through automatic thermostat for faster temperature control
7.	Temperature Sensor:	Preferably wireless Pt 100 sensor with temperature



		accuracy of $\pm 0.2^{\circ}\text{C}$ & temp resolution of 0.1°C
8.	Instrument Control:	TFT touch screen display or any other better system. The system must have automatic calibration.
9.	Automatic sensitivity control	To measure samples with transmittance as low as 0.01% (upto OD 4.0)
10.	Computer	The system must be provided with suitable computer for data storage and analysis, a laser printer and UPS.
11.	Warranty	Standard warranty of 02 years
12.	Interfaces	3 USB ports, RS 232 port, CAN BUS port, Ethernet port
13.	Manuals:	The user manual should be provided along with the instrument in the form of hard copy as well as electronic copy,
14.	Training:	The supplier of the instrument will provide hands on operational as well as application training at the time of installation. Supplier should mention their training facilities in India.
15.	After sales support:	The supplier should provide prompt after sales support in terms of instrument service as well as application support.
16.	Supply	The supplier should ensure timely supply of the item as per order at the user's Destination in good condition.

Item No. 7. Veneer Lathe (Peeling)

Specification:

- Maximum Length of Logs to be peeled : 140 cms
- Minimum Length of Logs to be peeled : 61-65 cms
- Maximum Peelable Diameter of log : 100 cms
- Minimum Core Diameter : 4 cms
- Thickness of veneers : 0.5 mm or less to 3.5 mm
- Diameter of Spindle : 10 cms
- Chuck Diameter : 3.8 cms to 12 cms
- Maximum RPM of spindle : 250
- Motor power capacity : 70 hp or above
- Power supply : 50 Hz AC
- Backup rolls hydraulically controlled in order to obtain perfect peeling down to minimum diameter
- Brake should be pneumatically controlled



- A variety of physical guards can be integrated into the machine design to prevent access to the point-of-operation. These guards feature safety interlocks to ensure they are in place during peeling operation.
- **Compressor is required**
- **One extra peeling blade/knife**
- **Hydraulic oil**
- **Sufficient quantity of wood logs for demonstration/ training**
- **Supply, Installation, commissioning, training, demonstration, of machinery at site.**

Item No. 10. Glue Spreader (Veneer)

Specification:

- Size : 3 feet x 4 feet (frame size)
- Roller : 3 Nos
- Rubber Rollers : Grooves 24 Nos or more per inch
- Motor with starter : 5 HP or above
- Glue tray & glue waste tray
- **The glue spreading capability on both side of veneers.**
- Installation, commissioning training and demonstration of machinery at site.

Item No. 12: Spectrophotometer

Specifications

Sample Analysis: Solids, liquids, powders, semi liquids, pastes, gels, wood, fibre, rubbers

Source: Long-life source with suitable hot-spot stabilization. User replaceable

Optics: ZnSe beamsplitter, gold coated optics for maximum efficiency, long-life, sealed and desiccated optical unit to work smoothly in high humidity area, Vibration isolated baseplate.

Detectors: Electrically, temperature-stabilized fast recovery deuterated triglycine sulphate (DTGS or DLTGS)

Wavelength range: 6000 – 500 cm^{-1} with ZnSe optics

Spectral Resolution: 0.8 cm^{-1} or better

Wavelength accuracy 0.1 cm^{-1} at 1,600 cm^{-1}

Signal to noise ratio: Maximum, not less than 30,000:1 at a 1 minute measurement

Spectrophotometer components like source, laser, detector, and interferometer must be continuously monitored for operation within factory specifications.

Optical components like detector and source must be electronically coded, so that these components are automatically recognized when placed in the spectrometer. Appropriate parameter must be automatically transferred to the application software.

KBr Pellet Die set with Hydraulic press to prepare pellets for measurement of FTIR spectra in transmittance mode. The KBr die set should be of stainless steel with hydraulic press of 20 tons. It should be resistant to corrosion, decay etc. for a period of minimum five years.

Sample holder to measure spectra of solid samples in transmittance mode
Sample cell to measure spectra of liquid samples in transmittance mode

ATR module to handle a wide range of solids, liquids, pastes, gels, powders, corrosive and reactive solids, resins, rubbers and semi liquids. **The ATR module must be provided with Zinc selenide and Germanium crystals.**

Change between different modules must be easy

Sampling modules must be automatically identified and spectral test routines must automatically start to verify accessory performance

NIST traceable polystyrene film or suitable hardware for validation of the system

The spectrophotometer must incorporate a high throughput interferometer and Gold Coated optics for maximum light throughput

Interferometer: Purge free gold mirror (frictionless) Michelson Interferometer. It must be improved, self-compensating for dynamic alignment changes due to tilt and shear, incorporating high reflectivity

The interferometer bearing mechanism must be wear-free (frictionless) design to ensure unlimited lifetime.

All the required accessories to carry out quantitative analysis of samples in transmittance and ATR mode must be provided.

Should be provided with genuine spectral library with 10000 or more compounds which includes common compounds, basic polymers, minerals, organic compounds, drugs etc.

Should be provided with Gold Coated DRIFT/DRA module for analysis of powder samples

Operating Conditions:

The operating temperature range must be 4 to 50 °C.

The operating humidity range must be 20 to 80%, non-condensing

Software Components:

The spectrophotometer should utilize a well-supported standard software package for instrument operation, data collection, and data manipulation. It should support very high resolution data sets (i.e. precision $<0.005 \text{ cm}^{-1}$ for peak finding, interpolation, transmittance, etc. Software for quantitative analysis of samples must be provided.

Suitable branded computer and printer and online UPS with 45 minutes backup must be provided.

Training Requirements:



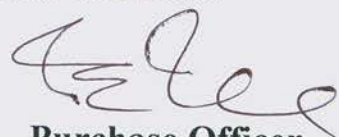
The Supplier have to provide User training on the hardware and software operation of the spectrometer on-site and to at least two person at the company's site at supplier's cost.

After Sale Service:

An inventory of consumable parts has to be maintained at supplier's level and should be made available from the vendor as and when required. The spectrometer should be covered under a warranty of three years including the source, laser, detector, and interferometer, beam splitter, power supply and other components. In case of any malfunctioning of the instrument, there should be assured after sale service from the vender's side at the user's site.

Supply and Service Requirements:

- The spectrophotometer and accessories shall be supplied by one vendor. All the accessories like ferrules, septa, gaskets, O rings etc. must be provided for smooth functioning of the instrument for a minimum period of five years. All serviceable components of the FTIR listed will be serviced by a certified service engineer from the same supplier.
- A full set of operating and programming manuals (English) must be supplied.
- Free installation
- Support in form of literature survey, application notes, laboratory, method development, frequent training, and standard substances, wherever possible.
- All the specifications quoted must match with the published literature as well as with the specifications available online
- Tool kit for self-maintenance of the system
- Demonstrable relevant experience of the firm supported by relevant documents.



Purchase Officer