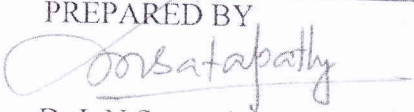
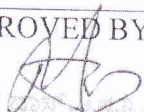




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| Purchase Specification of Refractometer | No. CTI/LNS/MYM 046 /2013/01 REV : 00 DATE : 07.11.2013 PAGE : Page 1 of 1 |
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| SL NO | SPECIFICATION | REQUIREMENT |
|-------|---|---|
| 1 | Purpose | The equipment should be capable of determining the refractive index of liquids , solid samples like Glass, Polymer and films. |
| 2 | Scope of Supply | Complete Digital refractometer along with suitable spare parts (if any). Detailed technical specification is shown in clause 11.0 of this specification. The Vendor must ensure that the equipment being offered is a new one and not refurbished or repaired one. If any of the equipment supplied by the Vendor is found to be substandard, refurbished or not in a accordance with the description /specification or otherwise faulty, the purchaser will have the right to reject the equipment or its part |
| 3 | Qualifying Requirement: | Manufacturer / Principals of Original manufacturer should have supplied at least ONE , similar equipments or use in similar usage in industries / Institutions in India and certificate from user to demonstrate satisfactory operation of equipment for at least one year is essential. In case of agent for overseas manufacturer, a letter of authorization from the manufacturer should be submitted along with the offer. |
| 4 | Warranty and Service | One year warranty from the date of completion of installation. All spares supplied for maintenance during warranty period should be free of cost. |
| 5 | Utilities Requirement : | Various utilities such as power connection, computer connectivity etc. are to be provided by BHEL separately. However, technical requirement of these utilities are to be furnished by the vendor. |
| 6 | Safety features | Equipment to be provided with suitable Safety arrangements |
| 7 | Standard sample | Standard samples for calibration of the Digital Refractometer and calibration procedure will be inclusive in the offer. |
| 8 | Availability of Spares | The Vendor must assure the availability of spares for servicing of equipment for at least 10 years. Supplier should give an undertaking that spares parts will be supplied within the specified periods as and when ordered. |
| 9 | Training | ONE day training should be provided free of charge at the premises of BHEL, Malleswaram Complex , BANGALORE on operation and maintenance of the equipment. The equipment will be installed by the supplier at BHEL Malleswaram complex, Bangalore, India |
| 10 | Descriptive literature and User & Service Manuals | A set of specifications, description and illustrated literature of the equipment, electrical circuit diagram and related peripherals should accompany the Techno-Commercial bid. A set of User's manuals and Service manuals of the main instrument, attachments and related equipment should be supplied with the equipment |

| SL NO | SPECIFICATION | REQUIREMENT |
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| 11 | Technical Specification | |
| The equipment will be used to measure the refractive index and Brix for various liquids and Refractive Index for solid samples like Glass, polymers and films - To be confirmed by the Supplier | | |
| a. | Measurement Range | a. Refractive Index range : 1.30 -1.70 b. Brix (%) range : 0 - 95 |
| b. | Accuracy in refractive Index measurement | ± 0.0002 (minimum) |
| c. | Reproducibility | a. Refractive index : 0.0001 b. Brix (%) : 0.1 |
| d. | Display | LCD display for Refractive Index, Brix and Temperature |
| e. | Temperature range for measurement | 10 – 50 deg C (minimum) at unit of 0.1 deg C Temperature measurement accuracy : ± 0.2 deg C (minimum) |
| f. | Accessories To be provided | Computer connectivity, standard samples, solid sample mounting liquids and any others (pl. specify) |

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| PREPARED BY  Dr L N Satapathy DY. General MANAGER/CTI | APPROVED BY  Dr. R N Das Dr. R.N. /AGM & Head /CTI |
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