

**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY****MATERIALS MANAGEMENT DIVISION****Powai, Mumbai 400076.**

Ref. PR No. 1000052452

RFx. No. 6100002705

Item Description: DSC Analyzer

| Sr. No | Detailed Technical Specification | Technical Compliance (Yes / No) | Additional Information (if any) |
|---------------|--|--|--|
| 1 | Differential Scanning Calorimeter : Power compensation or Heat flux Differential Scanning Calorimeter Capable of measuring, analyzing and quantifying phase transformations, glass transition temperature, melting temperature, % crystallinity enthalpy, specific heat studies of transformation. | | |
| 2 | Temperature Capability: i. Maximum: 700 °C ii. Minimum: down to -170 °C | | |
| 3 | Cooling system: Suitable cooling system to achieve negative temperature during the testing i.e., Intracooler / Liquid N ₂ setup to be provided. | | |
| 4 | Heating Rate °C/min: 0.02°C to 100 °C | | |
| 5 | Autosampler: Autosampler for minimum of 20 samples | | |
| 6 | Pan type: Aluminium Hermetic Pans for liquid samples with pin hole in lid, Pt crucible with lids (6 pcs) Standard Aluminium pans 400 Nos (40 microlitre standard for solid samples with lids) | | |
| 7 | Kit Composition: press with die and plungers for crucibles mentioned above | | |
| 8 | Sensor type: High sensitivity at low and high temperatures for power compensation or heat flux | | |
| 9 | Sample Atmospheres: Inert, Oxidising, automatic switch between gases | | |

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| 10 | Calibration Standard: The reference materials indium, tin and zinc for DSC calibration should be supplied | | |
| 11 | Sensitivity: The DSC signal must have a temperature accuracy of better than +/- 0.3°C °C and Precision +/-0.5°C. | | |
| 12 | Enthalpy Accuracy: +/- 0.5% enthalpy precision of better than \pm 2.5%. or better | | |
| 13 | Software: The system should have necessary accessories & software for data analysis. The software should have the provision to evaluate peak temperature, onset temperature, glass transition temperature, melting temperature, crystallization temperature, % crystallinity, specific heat, 1st and 2nd derivatives baseline subtraction, etc. | | |
| 14 | Microbalance: Sample weighing with 0.00001 g sensitivity | | |
| 15 | UPS: 5 KVA UPS with 30 minutes backup | | |
| 16 | Warranty: 5 year comprehensive warranty from date of installation | | |