

SPECIFICATION FOR DIGITAL MELTING POINT APPARATUS

Specification No. Mech/M&P/3100/GM/23

1.0 IMPORTANT INSTRUCTIONS TO TENDERERS FOR FILLING TECHNICAL BID

- 1.1 Bidders are required to give clause wise comments on the technical specifications, confirming compliance/non-compliance with details of deviations if any along with their effect on the performance. Back references to be avoided, offers are likely to be ignored in case of non-compliance of these instructions for furnishing the information.
- 1.2 Unless otherwise stated, latest alterations/ revisions of specifications/ standards/ drawings shall be applicable. In respect of safety standards and environmental standards relevant to the machine, the machine manufacturers shall ensure compliance with international (CE/ISO/DIN/JIS)/National standards (IS) (where applicable).
- 1.3 Tenderers should offer and quote for all the specified concomitant accessories, as these are considered essential for commissioning and utilization of the machine. Even if bidder does not recommend the purchase any of these accessories, the price must be quoted for comparison purposes and their recommendation/suggestion indicated in the offer. Tenderers should also quote for optional accessories, spares and consumable spares as asked in the specifications.
- 1.4 In case, any item is required in sets, please specify nos./pieces per set. This is essential for proper technical evaluation of the offer. Offers received without this may be considered as incomplete and liable to be rejected.
- 1.5 The bidder should quote only for the specified make of sub-assemblies and equipment wherever specified. Makes of sub-systems other than the specified ones will normally not be acceptable. In case, some other make is quoted, specific reasons for the same including its features/advantages over specified makes must be brought out in the offer.
- 1.6 In case there is a contradiction in any information provided (some parametric values given in the specification and those given in the brochure or some other document enclosed by the tenderer), unless specifically mentioned in the deviation cum confirmation statement the values as given in the specification shall be taken as confirmed by the tenderer and offer evaluated accordingly.
- 1.7 The Purchaser may accept internationally accepted alternative specifications which ensure equal or higher quality than the specifications mentioned in the Technical Specification. However, the decision of the Purchaser in this regard shall be final.
- 1.8 Purchaser reserves the right to verify the details submitted by the bidder by actual site visits.
- 1.9 Other terms & condition of the contract will be as per Indian Railway Standard conditions of contract.

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2.0 DESCRIPTION

Digital Melting Point Apparatus is required to test the melting point of various type of Nylon, Acetal, Polycarbonate etc.

3.0 PURPOSE & SCOPE OF SUPPLY

3.1 To determine melting point of various materials like Nylon of different grades, Acetal etc. Used in the components of RCF built coaches.

3.2 The Contract shall cover –

1. The supply and delivery of equipment.
2. The supplier before quoting the equipment shall ensure that the equipment should be supplied with all necessary spares.
3. Training to personal regarding operation and maintenance at RCF Kapurthala to entire satisfaction of the purchaser.

4.0 GENERAL FEATURES

The instrument shall have the following general characteristics :

- 4.1 The instrument should be fully automatic “**sample fill and forget**” simple to operate and selection of operating parameter should be controlled and understand easily by working staff.
- 4.2 The instrument should be microprocessor, Miniature furnace type controlled for highly accurate measurement of melting point.
- 4.3 The instrument should be powder coated with smooth finish and corrosion resistant.
- 4.4 The instrument should have hold key to hold the melting point reading to protect from power failure till reset is not activated.
- 4.5 The instrument should be suitable for dark and any coloured samples.
- 4.6 The instrument should be auto gradient rate of heating control and automatic ramp rate proceeding.
- 4.7 The instrument should be special illumination and magnifying display of melting operation with the help of adjustable magnifying glass.

5.0 TECHNICAL FEATURES

Sr. No.	PARAMETERS	REQUIREMENT
1	Display	LED display of result on suitable screen.
2	Melting Range	Up to 350 °C
3	Resolution	0.1 °C
4	Sample Capacity	One sample with cooling arrangement of furnace.
5	Storage Memory	100 samples minimum
6	Storage Memory	Compatible with latest version of software
7	Ramp Rates	2°C to 10°C / minute (selectable auto,low,high)

6.0 STANDARD ACCESSORIES TO BE SUPPLIED WITH MAIN UNIT

- a. Date cable compatible with the latest version of software in PC.
- b. Good quality cover for instrument to avoid dust.
- c. Tools & tackles as required.

7.0 CONCOMITANT ACCESSORIES

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7.1 The tenderer shall supply a list of concomitant accessories, which will be supplied along with the machine. The cost of each listed concomitant accessory should be quoted separately. Wherever for any reason the cost of any concomitant accessory is included in the basic price of the machine, the same should be specifically mentioned.

7.2 Any other accessory, which in the opinion of the tenderer can contribute to higher production rates, should be indicated and quoted separately.

8.0 OPTIONAL ACCESSORIES AND SPARES

8.1 The tenderer should furnish details of optional accessories & spares covered under warranty.

8.2 The tenderer should be furnishing the price list of optional accessories & spare parts required for two years normal maintenance of the equipment.

8.3 List of recommended optional accessories & spares for normal maintenance after expiry of warranty period to till useful life of the equipment.

8.4 Life estimated/expected for each equipment and its sub assembly.

9.0 OPERATING CONDITIONS

The equipment shall be capable to operate at temperature 0°C. to +50°C, Relative Humidity 98% max.

10.0 COMMISSIONING AND PROVING OUT

10.1 The Successful tenderer shall have to commission the machine within 30 days from the date of receipt of machine at RCF, Kapurthala.

10.2 The successful tenderer shall have to prove out the performance of the machine at RCF premises to the entire satisfaction of the consignee.

11.0 TRAINING OF STAFF

The training for operation, maintenance and trouble shooting of the Equipment shall be provided to 3 persons of RCF to their full satisfaction free of cost at RCF, Kapurthala.

12.0 ELIGIBILITY CRITERIA

12.1 The tenderer shall be registered on IREPS website (www.ireps.gov.in) to participate in the tendering process.

12.2 The tenderer shall have established quality control system and organization to ensure the supply of good quality products to the purchaser.

12.3 The tenderer shall provide a performance statement giving a list of major supplies of same/similar equipments effected in last 5 years to the reputed organizations giving details of the order no. and date and the quantity supplied and whether the supply was made within the delivery schedule. Such period shall be reckoned from the date of opening of tender.

12.4 References must be given to prove that the instrument model quoted is latest one and has earlier been installed at least 03 locations and has been successfully operating for last 02 years.

Tenderer not submitting the requisite information may note that his offer is liable to be ignored.

13.0 DEVIATION

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The tenderer should clearly certify that the machine offered fully meets the specification various design features incorporated in the machine to fulfill different technical performance requirements should be fully explained in the offer. However, minor deviations from this specification, which do not affect or in any way interfere with the stipulated performance standards, or would result in improved safety/reliability or would reduce recurring maintenance/operating cost of the machine, can be considered for acceptance.

14.0 MAKE

14.1 The supplier shall furnish the complete details of Model No. Make & Manufacturer’s details/ address, Country and authorization details of Dealership.

14.2 The firm shall provide the calibration certificate of National / International Traceability along with validity of at least two years.

15.0 AFTER SALES SERVICE

Supplier should be able to repair and supply various spares required from time to time and should able to attend the problems with respect to equipment supplier should also be able to calibrate the equipment as required by the user.

16.0 TECHNICAL LITERATURE:-

The supplier shall supply the following manuals:

- a) Operating / Maintenance Manuals 03 copies
- b) Spare Part Manuals with Price list 03copies
- c) Electric /Electronic Circuit diagrams 03 copies
- d) Safety Manuals 03 copies

17.0 SPECIAL FEATURES

Special features incorporated into the machine, if any shall be indicated separately by the tenderer, clearly indicating the advantage of these features.

18.0 WARRANTY

The warranty condition of contract will be as per IRS conditions or as quoted by the tenderer whichever is later.

Note: Tenderer to furnish following detail of the Digital Melting Point Apparatus offered

S.no.	Technical Parameter	Offered by Tenderer

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