



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

For RfX No.6100000344 (PR No.1000014475)

Technical specifications of Capillary Rheometer

Type of Barrel : Double Bore

Temperature Range : Ambient to 400°C

Temperature Control Accuracy : ± 0.1 °C or better throughout the barrel and die assembly

Temperature Cooling Rate : At least 15 K / min or lower

Maximum Force Range : 20kN or more

Piston Speed Range: Equal to or wider than 0.003 to 600 mm/min

Speed Uncertainty: Less than 0.1%

Pressure Transducers : Around 20 bar

Pressure Transducer Accuracy : Better than 0.5%

Two Die Sets : Each set should consist of suitable dies for performing both Mooney and Bagley corrections.

Die Set 1 This should include

- (i) zero length die of 1 mm diameter,
- (ii) two dies with diameter 1 mm but different lengths
- (iii) one die which has the same L/D ratio as one of the dies in part (ii) above

Die Set 2: This should include

- (i) zero length die of 2 mm diameter,
- (ii) two dies with diameter 2 mm but different lengths
- (iii) one die which has the same L/D ratio as one of the dies in part (ii) above



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Die: Tungsten Carbide

Barrel Material : Nitride Steel

Corrections Software and hardware required for calculating the following corrections must be included:

Weißenberg-Rabinowitsch

Bagley-Correction

Mooney Correction

Hagenbach-Correction

Accessories Essential accessories, standard operating tools and accessories must be quoted along with the instrument.

Software

All essential software for enabling constant shear test, extensional viscosity measurement, flow/no-flow test should be included.

Necessary tools for exporting data to Microsoft excel, etc. should be included.

Utilities : Computer with latest specifications and all software installed

Warranty : Three-year comprehensive warranty

Low Temperature accessory : the chiller & cooling coil required to reduce the temperature from room temperature to 5°C