**DYNAMIC SHEAR RHEOMETERS (DSR)**

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|  | **Name of the equipment:** Dynamic Shear Rheometers (DSR)**Make & Model:**ANTON PAAR - MCR-102**I-Stem Registration ID-** **……………………..** **Category of Instrument**Characterization and Testing**Types of Analysis / Testing**It can perform Complex Shear Modulus, Viscosity determination, Superpave performance grading, and Multiple stress creep recovery (MSCR).**Application:** * Quality control and routine measurements in asphalt test labs
* Research and development of asphalt and bitumen products
* Standard asphalt tests according to international standards (AASHTO, ASTM, DIN EN, etc.)

**Description of Instrument**The SmartPave 102 is a dynamic shear rheometer (DSR) that is designed to analyze unmodified and modified asphalt binder and bitumen in a wide temperature range. |

**Booking Details**

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| **Book through I-STEM:**<https://www.istem.gov.in/>**Slot Booking Link**[I-STEM Slot Booking link for External User](https://www.istem.gov.in/) | **Booking available for**Internal and External Both**Requisition form for**[Internals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf)[Externals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf) |

**Contact Details**

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**Features, Working Principle and Specifications**

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| **Features of the equipment*** High-precision Peltier temperature control
* EC motor for sensitive and precise movements
* QuickConnect system for easy and fast system changes
* TruRay lighting concept for a clear view of the sample and measurement surface
 | **Unique features/Measurement capabilities, if any*** Temperature range of -50 °C to +220 °C
* Unrivalled accuracy and convenience
* Automatic and fast temperature calibration and verification routine.
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| **Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)**1. Temperature range: -50 °C to +220 °C
2. Meets international standards
3. *Complex Shear Modulus |G| [Pa]*\*
4. Viscosity determination of asphalt binder
5. Upgradeable to all standard rheological tests
 | **Measurement/Sample specifications:** * Asphalt binder
* Bitumen
* Modified asphalt binder
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The SmartPave 102e requires 10-20g of dry and solid asphalt binder, bitumen, modified asphalt binder, or ground tire rubber (GTR) modified asphalt binders for analysis/testing.

**Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions**

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
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**User Charges Rs. (GST Extra)**