ASPHALT > CYCLIC

RESILIENT MODULUS TESTING MACHINE

Code : A833

- Cyclic triaxial system for determining the resilient modulus (Mr) of subgrade soils and unbound base/subbase materials under repeated axial loading with confining pressure—fully automating preconditioning and all loading sequences.
- Supports standard cylindrical specimens with H/D ≈ 2:1, internal LVDTs for recoverable strain, and closed-loop axial load control to deliver haversine pulses with programmable load/rest periods (e.g., 0.1 s / 0.9 s).
- Triaxial cell provides stable confining pressure with automated sequences (fixed or variable σ3) for cohesive and granular materials; software calculates Mr = σd / εr (cycle-averaged) with built-in quality checks.
- Optional kit for bituminous mixtures (indirect tension) to determine resilient modulus and stiffness on the same frame.
- Turn-key reporting with sequence logs, Mr–bulk stress plots, and export to CSV/PDF; robust frame and corrosion-resistant pressure cell for routine QC and research.

STANDARDS

AASHTO T 307 • EN 13286-7 • ASTM D7369 • EN 12697-26

TECHNICAL SPECIFICATIONS

- Specimen sizes (soil/unbound): Ø50 mm, Ø70 mm, Ø100 mm, Ø150 mm; height = 2 × diameter
- Axial load frame: electromechanical/servo, closed-loop haversine pulses; programmable load and rest times
- Maximum axial force: 10–50 kN (model-dependent)
- Axial strain measurement: internal LVDTs, resolution ≤ 1 μm
- Axial load measurement: load cell, accuracy ≤ ±0.5% FS
- Confining control: constant σ3 or variable σ3 (VCP) sequence
- Software outputs: Mr per sequence, Mr–θ and Mr–(σ3, σd) relationships, stress-dependency model fits, compliance checks; optional asphalt IT-CY stiffness / resilient modulus
- Safety: over-load/over-travel interlocks; pressure relief; emergency stop
- Optional ALFA Cloud integration for secure, real-time data upload, centralized storage, and web access to results.

EQUIPPED WITH

- Load frame with cyclic controller and axial load cell
- Triaxial cell with pressure regulator/transducer and specimen platens
- Internal axial LVDTs with mounting ring
- Backpressure & drainage lines with de-airing accessories
- Control and reporting software with predefined T 307 and EN 13286-7 sequences

SUPPLIED WITH

- Split molds for Ø71/100/150 mm, top caps/base pedestals, membranes & O-rings
- Calibration certificates (force, pressure, displacement)
- Starter consumables kit and tooling
- Operating manual with preset test templates