

RESILIENT MODULUS TESTING MACHINE (A833)

Category: Asphalt



Product Code: A833

Category: ASPHALT

Sub-Category: CYCLIC

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- Cyclic triaxial system for determining the resilient modulus (M_r) 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 $H/D \approx 2:1$, 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 σ_3) for cohesive and granular materials; software calculates $M_r = \sigma_d / \epsilon_r$ (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, M_r -bulk stress plots, and export to CSV/PDF; robust frame and corrosion-resistant pressure cell for routine QC and research.
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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 = $2 \times$ 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 $\leq 1 \mu\text{m}$
- Axial load measurement: load cell, accuracy $\leq \pm 0.5\%$ FS
- Confining control: constant σ_3 or variable σ_3 (VCP) sequence
- Software outputs: M_r per sequence, M_r - θ and M_r -(σ_3 , σ_d) 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

ORDERING INFORMATION

To be added soon ...

Keywords: Resilient modulus, Mr, AASHTO T307, EN 13286-7, cyclic triaxial, haversine pulse, unbound materials, subgrade, base, asphalt IDT, ASTM D7369, EN 12697-26, pavement design, internal LVDT, triaxial cell