



AUTOMATED ROCK DIRECT SHEAR TESTER

SHEARTEST SERIES

The SHEARTEST series is a versatile direct-shear system designed for conventional, incremental, and residual shear tests. This closed-loop, servo-controlled device applies simultaneous hydraulic normal and shear forces to a rock specimen housed in a shear box. A dedicated computing station records both force and displacement data in real time. The system operates under constant normal load (CNL), constant normal stiffness (CNS), or constant normal displacement (CND) modes while it can simultaneously apply constant incremental or ramped shear loads or displacements. Data collected during testing allows for the determination of key shear strength parameters, such as cohesion (c) and friction angle (ϕ). Each unit can be custom-configured to specific needs, offering a wide range of shear and normal load capacities as well as specimen sizes—ensuring a tailored and precise solution for every user.

FEATURES

- Normal and shear servo-controlled hydraulic actuators
- Hydraulic power unit
- Normal and shear load cells
- Normal and shear deformation LVDT transducers
- Shear box
- Normal load reaction frame
- Computer control and data acquisition station
- Standards: ASTM D 5607, ISRM



OPERATING MODES

- Constant normal load (CNL)
- Constant normal stiffness (CNS)
- Constant normal displacement (CND)
- constant incremental shear loads or displacements
- constant ramped shear loads or displacements



High Precision and Control

The closed-loop, servo-controlled hydraulic system ensures accurate application and regulation of both normal and shear forces, enabling highly reliable test results.



Versatility in Testing Modes

It supports multiple configurations (CNL, CNS, and CND) and can perform conventional, incremental, and residual shear tests, making it adaptable to various research and engineering needs.



Customizable Design

Each unit can be tailored to specific requirements, offering a range of load capacities and specimen sizes, providing flexibility for different materials and testing objectives.



Durable

Robust construction ensures long-term performance and low maintenance.

YOUR SUPPLIER OF GEOMECHANICAL TOOLS

MODEL	SHEAR LOAD (kN)	NORMAL LOAD (kN)	SPECIMEN DIAM / SIDES (mm)	SPECIMEN HEIGHT (mm)
SHEARTEST 200-10	200	10	150	150
SHEARTEST 100-50	100	50	150	150
SHEARTEST 500-300	500	300	150	150
SHEARTEST 1000-500	1000	500	300x300	100

APPLICATIONS

- ❖ **Mining & Mineral Extraction** – Testing rock joints and fractures for safe mine design and slope stability.
- ❖ **Tunneling & Underground Construction** – Evaluating rock mass behavior for tunnels, caverns, and subways.
- ❖ **Hydropower & Dams** – Assessing rock foundations and abutments for structural safety.
- ❖ **Oil, Gas & Geothermal Energy** – Analyzing rock shear strength and stability around wells and reservoirs.
- ❖ **CO₂ Sequestration & Hydrogen Storage** – Studying caprock integrity and fracture sealing for secure underground storage.
- ❖ **Civil & Infrastructure Engineering** – Rock slope and foundation stability for transport and construction projects.
- ❖ **Nuclear Waste Storage** – Ensuring long-term geological containment in hard rock formations.
- ❖ **Research & Academia** – Rock mechanics, fracture propagation, and fault reactivation studies.

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For more information



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