Hoek Cell
Triaxial Test Cell

LT-R0070/4 | Rock core testing under controlled confining pressure

Steel cell • Rubber sleeve • Spherical loading caps



35 × 15 × 20 cm

EXTERNAL DIMENSIONS

15 kg

APPROXIMATE WEIGHT

Two quick-release couplings • Screw-type end caps • External loading and pressure systems

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Photographs and Components

Steel body, pressure connections, rubber sleeve and loading caps

The Hoek Cell allows intact rock cores to be loaded axially under controlled confining pressure. A rubber sleeve separates the specimen from the cell fluid. Use the cell with a suitable loading machine, confining-pressure unit and measurement system.

STEEL CELL BODY

The rigid body contains the fluid used to apply confining pressure.

RUBBER SLEEVE

Surrounds the core and separates the specimen from the cell fluid.



QUICK-RELEASE COUPLINGS

Two self-sealing couplings simplify connection of the pressure line.

LOADING CAPS

Spherically seated caps support transfer of axial force into the rock core.



Steel body, screw-type end caps and pressure connections

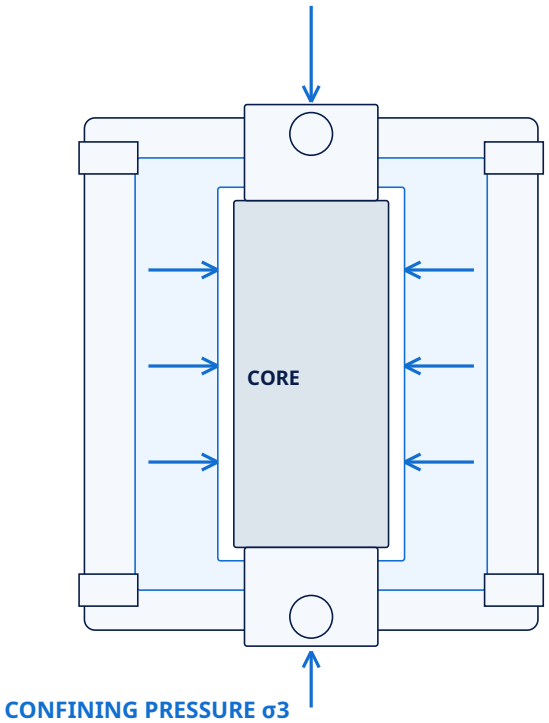


Rubber sleeve and spherical loading components

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Triaxial Loading Principle

Axial force F • Confining pressure σ3 • Membrane-isolated rock core



CELL CROSS-SECTION • SCHEMATIC

Install the Core

Place the prepared core in a suitable rubber sleeve. Fit the loading caps and end covers.

Apply Confining Pressure

Connect a compatible pressure unit. Apply and control the selected confining pressure.

Load Axially and Record

Apply axial force with the testing machine. Record load, pressure and required deformations.

Cell fluid transmits confining pressure through the rubber sleeve to the core; the testing machine applies axial load separately. Tests at different confining-pressure levels allow rock strength to be compared under changing stress conditions.

Sleeve and Specimen Preparation

The rubber sleeve separates the pressure fluid from the specimen. Select cell and sleeve sizes to suit the core diameter and test configuration.

Spherical seating accommodates minor alignment differences; flat and parallel core ends are still required.

Test System Integration

Use the cell with an axial loading machine, a separate confining-pressure unit and suitable measuring equipment.

Monitor load and pressure for strength testing. Elastic properties require suitable axial and lateral strain measurements for the test arrangement.

Technical Specifications

LT-R0070/4 • Cell construction, dimensions and system requirements

Technical Feature	Value / Function
Product Code	LT-R0070/4
Body	Steel pressure cell
Specimen Isolation	Rubber sealing sleeve
End Caps	Screw-type, removable
Loading Caps	Upper and lower spherically seated caps
Pressure Connections	2 self-sealing quick-release couplings
Axial Load Source	External suitable testing machine
Confining Pressure Source	Compatible external pressure unit
Specimen / Test	Intact rock core / triaxial compression
External Dimensions	35 × 15 × 20 cm
Weight	Approximately 15 kg
Method Reference	ASTM D7012-23, Methods A and B

Strength and Elastic Properties

Method A covers triaxial compressive strength. Method B includes axial and lateral strain measurements to determine elastic properties. Complete the measuring arrangement for the selected method.

Test Workflow

01
Prepare the Core
Check end faces and sleeve compatibility.

02
Assemble the Cell
Fit caps, covers and pressure connections.

03
Pressure and Load
Apply confining pressure and axial load.

04
Record the Data
Monitor load, pressure and required deformation.

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