Rock Physics Finland

ISO standardization of laboratory testing of rocks

Risto Kiuru
Oy Rock Physics Finland Ltd

ISRM Suggested Methods

Rock Physics Finland

1.12.2025
Risto Kiuru

Suggested Methods

ISRM Commission on Testing Methods coordinates the development of ISRM Suggested Methods

- Led by Prof. Resat Ulusay, Finnish representative Risto Kiuru

Commission key objectives

- To generate and publish ISRM Suggested Methods for testing or measurement of rocks and rock mass properties, as well as for monitoring the performance of rock engineering structures
- To revise or update the existing SMs based on recent developments
- To stimulate and invite researchers to develop new SMs, procedures or equipment for tests, measurements and monitoring required for rock mechanics laboratory or field experiments and studies
- To cooperate with universities, institutes and the colleagues from rock mechanics and rock engineering society for the preparation of videos for the current ISRM SMs,
- To encourage collaborations among those who perform rock mechanics tests

Most recent Suggested Methods

Most recent published ISRM Suggested Methods

- SM for determining the dynamic shear strength and mode II fracture toughness of rock materials using the Split Hopkinson Pressure Bar (SHPB) (in press)
- SM for determining the properties of rock bolt assemblies by Mass Freewall (MF) method (2024)
- The Lugeon Test (2019)
- Determining Deformation and Failure Characteristics of Rocks Subjected to True Triaxial Compression (2019)
- In Situ Acoustic Emission Monitoring of the Fracturing Process in Rock Masses (2019)
- Determining the Basic Friction Angle of Planar Rock Surfaces by Means of Tilt Tests (2018)

What's next?

Upcoming ISRM Suggested Methods

- SM for Achieving Full Water-Saturation of Rock
- SM for Determining the Tensile Strength and Deformability of Rock Materials by the Direct Tensile Test
- SM for Tri-axial Compression Testing of Shales and Mudstones
- SM for determining the elastic constants of transversely isotropic rocks with uniaxial compression tests
- SM for the Leeb Rebound Hardness Test for Rock Engineering
- SM for Dynamic Shear Testing of Rock Discontinuities and Interfaces
- SM Updated SM for In-Situ Determination of the Shear Strength of Discontinuities and Interfaces
- SM for Small-scale Linear Rock Cutting Test
- SM for Laboratory Determination of Permeability of Fractures in Low-Permeability Rock Specimen
- Upgraded SM for Quantitative Description of Discontinuities in Rock Masses

“The Brown Book”

2026

ISO/CEN standardisation

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ISO-TC182-WG10

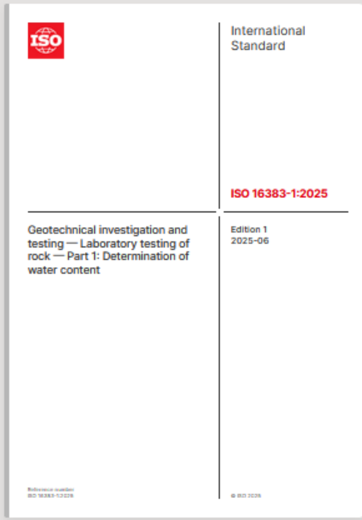
International standardisation is done under the umbrella of ISO

- Technical Committee (TC) 250: Eurocode 7
- Technical Committee 182: Geotechnics
- Coordinated in Finland by group SR01 under Väylävirasto, led by Panu Tolla, secretary Veli-Matti Uotinen

Under TC 182, there are working groups, including WG 10 "Laboratory testing of rocks"

- The main goal of the group is to create international ISO/CEN standards for the laboratory testing of the most important physical and mechanical rock properties
- You can follow the progess of the ISO 16383 series online at www.iso.org
- The first standard was published in June 2025

The first standard is now out



Read sample

← TC ← ISO/TC 182

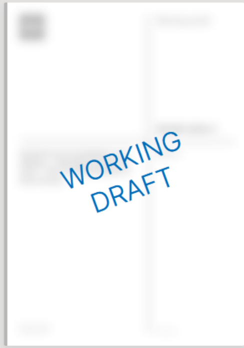
ISO 16383-1:2025

Geotechnical investigation and testing — Laboratory testing of rock

Part 1: Determination of water content

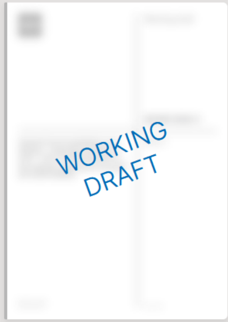
Published (Edition 1, 2025)

What's next?



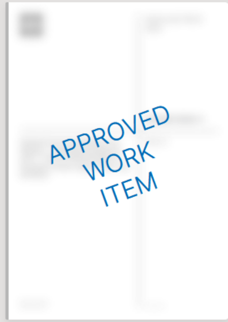
← TC ← ISO/TC 182

ISO/WD 16383-2



← TC ← ISO/TC 182

ISO/WD 16383-3



← TC ← ISO/TC 182

ISO/AWI 16383-4

Geotechnical investigation and testing —
Laboratory testing of rock

Part 4: Determination of the basic friction angle of flat rock surfaces

Under development

A working group has prepared a draft.

Thank you!

Risto Kiuru
risto.kiuru@rockphysics.fi
+358 50 374 1106