
ISRM SUGGESTED METHODS

see also <http://www.isrm.net/gca/?id=177>

1- SITE CHARACTERIZATION

SM for Quantitative Description of Discontinuities in Rock Masses - 1978

SM for Geophysical Logging of Boreholes – 1981:

- Part 1 Technical Introduction
- Part 2 SM for Single-Point Resistance and Conventional Resistivity Logs
- Part 3 SM for the Spontaneous Potential Log
- Part 4 SM for the Induction Log
- Part 5 SM for the Gamma-Ray Log
- Part 6 SM for the Neutron Log
- Part 7 SM for the Gamma-Gamma Density Log
- Part 8 SM for the Acoustic or Sonic Log
- Part 9 SM for the Caliper Log
- Part 10 SM for the Temperature Log
- Part 11 References

2 - LABORATORY TESTING

SM for Petrographic Description of Rocks - 1978

SM for Determining Water Content, Porosity, Density, Absorption and Related Properties and Swelling and Slake-Durability Index Properties - 1977

Part 1 - SM for Determining Water Content, Porosity, Density, Absorption and Related Properties:

SM for Determination of the Water Content of a Rock Sample

SM for Porosity/Density Determination Using Saturation and Caliper Techniques

SM for Porosity/Density Determination Using Saturation and Buoyancy Techniques

SM for Porosity/Density Determination Using Mercury Displacement and Grain Specific Gravity Techniques

SM for Porosity/Density Determination Using Mercury Displacement and Boyle's Law Techniques

SM for Void Index Determination Using the Quick Absorption Technique

Part 2 - SM for Determining Swelling and Slake-Durability Index Properties:

SM for Determination of the Swelling Pressure Index Under Conditions of Zero Volume Change

SM for Determination of the Swelling Strain Index for a Radially Confined Specimen With Axial Surcharge

SM for Determination of the Swelling Strain Developed in an Unconfined Rock Specimen

SM for Determination of the Slake-Durability Index

SM for Determining Hardness and Abrasiveness of Rocks – 1978:

Part 1 – Introduction and Review

Part 2 - SM for Determining the Resistance to Abrasion of Aggregate by Use of the Los Angeles Machine

Part 3 - SM for Determination of the Schmidt Rebound Hardness

SM for Determining the Shore Hardness Value for Rock - 2006

SM for Determining Sound Velocity - 1978

SM for Determining Point Load Strength - 1985

SM for Determining the Indentation Hardness Index of Rock Materials - 1998

SM for Determining Block Punch Strength Index (BPI) - 2001

SM for Determining the Uniaxial Compressive Strength and Deformability of Rock Materials – 1979:

Part 1 SM for Determination of the Uniaxial Compressive Strength of Rock Materials

Part 2 SM for Determining Deformability of Rock Materials in Uniaxial Compression

SM for Determining the Strength of Rock Materials in Triaxial Compression - 1978

SM for Determining Shear Strength – 1974:

- Part 1 SM for In Situ Determination of Direct Shear Strength
- Part 2 SM for Laboratory Determination of Direct Shear Strength
- Part 3 SM for In Situ Determination of Shear Strength Using a Torsional Shear Test

SM for Determining Tensile Strength of Rock Materials – 1978:

- Part 1 SM for Determining Direct Tensile Strength
- Part 2 SM for Determining Indirect Tensile Strength by the Brazil Test

SM for Laboratory Testing of Argillaceous Swelling Rock – 1989:

- Part 1 SM for Sampling, Storage and Preparation of Test Specimens
- Part 2 SM for Determining Maximum Axial Swelling Stress
- Part 3 SM for Determining Axial and Radial Free Swelling Strain
- Part 4 SM for Determining Axial Swelling Stress as a Function of Axial Swelling Strain

SM for Laboratory Testing of Swelling Rocks – 1999:

- Part 1 SM for Sampling, Storage and Preparation of Test Specimens
- Part 2 SM for Determining Axial Swelling Stress
- Part 3 SM for Determining Axial and Radial Free Swelling Strain
- Part 4 SM for Determining Axial Swelling Stress as a Function of Axial Swelling Strain

SM for the Complete Stress-Strain Curve for Intact Rock in Uniaxial Compression - 1999

SM for Determining the Fracture Toughness of Rock – 1988:

- Part 1 SM for Determining Fracture Toughness Using Chevron Bend Specimens
- Part 2 SM for Determining Fracture Toughness Using Short Rod Specimens

SM for Determining Mode I Fracture Toughness Using Cracked Chevron Notched Brazilian Disc (CCNBD) Specimens - 1995

3 - FIELD TESTING

3.1 DEFORMABILITY TESTS

SM for Determining In Situ Deformability of Rock – 1979:

- Part 1 - SM for Deformability Determination Using a Plate Test (Superficial Loading)
- Part 2 - SM for Field Deformability Determination Using a Plate Test Down a Borehole
- Part 3 - SM for Measuring Rock Mass Deformability Using a Radial Jacking Test

SM for Deformability Determination Using a Large Flat Jack Technique 1986

SM for Deformability Determination Using a Flexible Dilatometer – 1987

SM for Deformability Using a Flexible Dilatometer with Volume Change Measurements

SM for Deformability Using a Flexible Dilatometer with Radial Displacement Measurements

SM for Deformability Determination Using a Stiff Dilatometer - 1996

3.2 IN SITU TRESS MEASUREMENTS

SM for Rock Stress Determination - 1987

SM for Rock Stress Determination Using a Flatjack Technique

SM for Rock Stress Determination Using the Hydraulic Fracturing Technique

SM for Rock Stress Determination Using a USBM-Type Drillhole Deformation Gauge

SM for Rock Stress Determination Using a CSIR- or CSIRO-Type Cell with 9 or 12 Strain Gauges

SM for In Situ Stress Measurement Using the Compact Conical-Ended Borehole Overcoring (CCBO) Technique - 1999

SM for Rock Stress Estimation – 2003:

- Part 1: - Strategy for Rock Stress Estimation
- Part 2: - Overcoming Methods
- Part 3: - Hydraulic Fracturing (HF) and/or Hydraulic Testing of Pre-existing Fractures (HTPF)
- Part 4: - Quality Control of Rock Stress Estimation

3.3 GEOPHYSICAL TESTING

SM for Seismic Testing Within and Between Boreholes – 1988:

- Part 1 - Technical Introduction
- Part 2 - SM for Seismic Testing Within a Borehole
- Part 3 - SM for Seismic Testing Between Boreholes
- Part 4 - SM for Seismic Tomography

SM for Land Geophysics in Rock Engineering – 2004:

- Seismic Refraction
- Shallow Seismic Reflexion
- Electrical
- Electromagnetic
- Ground Penetration Radar
- Gravity
- Radiometric

SM for Borehole Geophysics in Rock Engineering – 2006:

- Velocity Measurements Along a Borehole
- Electric and Electromagnetic Logging
- Nuclear Logging
- Vertical Seismic Profiling
- Seismic Tomography
- Resistivity Tomography
- Seismic Ahead of a Tunnel Face

3.4 OTHER TESTS

SM for Rapid Field Identification of Swelling and Slaking Rocks - 1994

SM for Large Scale Sampling and Triaxial Testing of Jointed Rock – 1989

3.5 BOLTING AND ANCHORING TESTS

SM for Rockbolt Testing – 1974:

- Part 1 SM for Determining the Strength of a Rockbolt Anchor (Pull Test)
- Part 2 SM of Determining Rockbolt Tension Using a Torque Wrench
- Part 3 SM for Monitoring Rockbolt Tension Using Load Cells

SM for Rock Anchorage Testing - 1985

4 - MONITORING

SM for Monitoring Rock Movements Using Borehole Extensometers - 1978

SM for Monitoring Rock Movements Using Inclometers and Tiltmeters – 1977:

- Part 1 SM for Monitoring Rock Movements Using a Probe Inclometer
- Part 2 SM for Monitoring Rock Movements Using Fixed-in-Place Inclometers
- Part 3 SM for Monitoring Rock Movements Using Tiltmeters

SM for Pressure Monitoring Using Hydraulic Cells - 1980

SM for Surface Monitoring of Movements Across Discontinuities - 1984

SM for Monitoring Movements Across Discontinuities Using Glass Plates

SM for Monitoring Movements Across Discontinuities Using Pins and a Tape

SM for Monitoring Movements Across Discontinuities Using a Portable Mechanical Gauge

SM for Monitoring Movements Across Discontinuities Using a Remote Reading Electrical Jointmeter

SM for Blast Vibration Monitoring - 1992

ISRM REPORTS

ISRM Basic Geotechnical Description of Rock Masses - 1980

ISRM Characterization of Swelling Rock - 1983

ISRM Comments and Recommendations on Design and Analysis Procedures for Structures in Argillaceous Swelling Rock - 1994

ISRM Commission on Rock Grouting - 1996

ISRM Recommendations on Site Investigation Techniques - 1975

ISRM Report on ISRM Fields of Activities - 1986

ISRM Report on Teaching of Rock Mechanics - 1981

ISRM Suggested Improvement on Schmidt Rebound Hardness ISRM Suggested Method - 1993

ISRM Supporting Paper on Determination of In Situ Deformation Modulus - 1997

ISRM Terminology - 1975

Dynamic Phenomena in Mines and the Problem of Stability (133 p.) – Dr. A.M. Linkov - 1992

Professional Users Handbook for Rock Bolting (164 p.) – Dr. Bengt Stilborg - 1986