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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

DZ/T 0276.1-2015

Replacing DY-94

**Regulation for testing the physical and mechanical properties
of rock. Part 1: General rules and regulations
(English Translation)**

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Foreword

DZ/T 0276 "Testing Procedures for Physical and Mechanical Properties of Rocks" is divided into 31 parts.

- Part 1. General and general provisions;
- Part 2. Rock moisture test;
- Part 3. Rock particle density test;
- Part 4. Rock density test;
- Part 5. Rock water absorption test;
- Part 6. Rock hardness test;
- Part 7. Rock gloss test;
- Part 8. Rock antifreeze test;
- Part 9. Rock resistance to disintegration test;
- Part 10. Rock expansion test;
- Part 11. Rock erosion test;
- Part 12. Rock acid and alkali resistance test;
- Part 13. Rock specific heat test;
- Part 14. Rock thermal conductivity test;
- Part 15. Rock breakdown voltage and breakdown strength test;
- Part 16. Rock volume resistivity and surface resistivity test;
- Part 17. Rock radioactivity specific activity test;

- Part 18. Rock uniaxial compressive strength test;
- Part 19. Rock uniaxial compression deformation test;
- Part 20. Rock triaxial compression strength test;
- Part 21. Rock tensile strength test;
- Part 22. Rock flexural strength test;
- Part 23. Rock point load strength test;
- Part 24. Rock acoustic wave velocity test;
- Part 25. Rock shear strength test;
- Part 26. Rock mass deformation test (bearing plate method);
- Part 27. Rock mass deformation test (drilling deformation method);
- Part 28. Rock mass strength test (direct shear test);
- Part 29. Rock mass strength test (bearing plate method);
- Part 30. Rock mass bolt load test;
- Part 31. Rock sound wave velocity test.

This part is the first part of DZ/T 0276.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces DY-94 "Testing procedures for physical and mechanical properties of rocks 1. General rules". The main technical changes in this section compared with DY-94 as follows.

- Added three chapters of "normative references", "general rules" and "general rules";
- Deleted the "Supplementary Provisions" section;
- Revised the scope of application of petrophysical mechanics tests.

This part is proposed by the Ministry of Land and Resources of the People's Republic of China.

This part is under the jurisdiction of the National Land Resources Standardization Technical Committee (SAC/TC93).

This section drafted by. Hubei Institute of Geological Experiments.

1 Scope

This part of DZ/T 0276 specifies the purpose, tasks and general provisions of the rock physical and mechanical properties test work.

This section applies to geological exploration, mineral resources development and utilization evaluation, geological environmental protection and geological disaster prevention, and geological science Rock physical and mechanical properties tests carried out in the research work.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB 3100 International System of Units and Its Application GB 3101 General principles for quantities, units and symbols GB 3102.1 Space and time quantities and units GB 3102.2 cycle and the quantity and unit of related phenomena GB 3102.3 Quantity and unit of mechanics GB 3102.4 Thermal quantity and unit GB 3102.5 Quantity and unit of electricity and magnetism GB 3102.6 Light and related electromagnetic radiation quantity and unit GB 3102.7 Acoustics and units GB 3102.8 Quantities and units of physical chemistry and molecular physics GB 50021 Geotechnical Investigation Specification DZ/T 0130.11 Geological and mineral laboratory test quality management specification - Part 11. Rock physical and mechanical properties test

3.1 Work tasks

The task of rock physical and mechanical properties test is to understand the basic physical and mechanical properties of rock and its failure mechanism, and to study the foundation and ground of buildings.

The engineering conditions of the lower engineering and bedrock or surrounding rock in the slope are geological exploration, mineral resources development and utilization evaluation, geological environment protection and land Basic disaster data and scientific research provide basic experimental data.

3.2 Test content

3.2.1

Rock physical properties tests include. rock moisture content test, rock particle density test, rock density test, rock water absorption test, Rock hardness test, rock gloss test, rock freeze test, rock fracture resistance test, rock expansion test, rock dissolution test, rock Acid and alkali resistance test, rock specific heat test, rock thermal conductivity test, rock breakdown voltage and breakdown strength test, rock volume resistivity and surface resistivity test and rock radioactivity specific activity test.

3.2.2

Rock and rock mechanics properties include. rock uniaxial compressive strength test, rock uniaxial compression deformation test, rock triaxial compression