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

DZ/T 0276.12-2015

Replacing DY-94

**Regulation for testing the physical and mechanical properties
of rock. Part 12: Test for determining the acid resistance and
alkali resistance of rock
(English Translation)**

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Table of Contents

- Foreword
- 1 Scope
- 2 Terms and definitions
- 3 Principle
- 4 Instruments and reagents
 - 4.1 Instrumentation
 - 4.2 Chemical reagents

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 12th 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. 16. Acid resistance and alkali resistance test". This part is related to DY-94 the main technical changes are as follows.

- Added two chapters "terms and definitions" and "principles";
- Increased stone cutting machine equipment;
- Increased the accuracy requirements of the calculation results;
- Increased phenolphthalein solution;
- Modified the representation of chemical reagents;
- Modified the acid resistance (alkali) test record sheet.

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).

1 Scope

This part of DZ/T 0276 specifies test methods for determining the acidity and alkalinity of rock.

This section applies to the rock acid and alkali resistance test in rock physical and mechanical properties test.

2 Terms and definitions

The following terms and definitions apply to this document.

Acid resistance the rock sample is placed in an acidic medium, and the ratio of the remaining mass to the original mass after a certain period of time is expressed as a percentage.

Alkaliresistance

The rock sample is placed in an alkaline medium, and the ratio of the remaining mass to the original mass after a certain period of time is expressed as a percentage.

3 Principle

The rock sample is placed in an acid-base medium. After immersion for a certain period of time, the acidity and alkalinity are calculated and the acid (alkali) solution is soaked. endurance.

4.1 Instrumentation

4.1.1

Stone cutting machine.

4.1.2

Glass cylinder. 25cm in diameter.

4.1.3

Electric furnace.

4.1.4

Drying box. The temperature can be controlled within the range of 105 °C ~ 110 °C.

4.1.5

Dryer. 24cm in diameter, built-in color changing silica gel.

4.1.6

Balance. The maximum weighing value is 200g, and the reading accuracy is 0.001g.

4.1.7

Glass rod. diameter is 2mm~3mm.

4.2 Chemical reagents

4.2.1

Sulfuric acid solution (1 g).

4.2.2

Sodium hydroxide solution (100g/L).

4.2.3

Barium chloride solution (200g/L).

4.2.4

Phenolphthalein solution (10g/L).