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

DZ/T 0276.26-2015

**Regulation for testing the physical and mechanical properties
of rock. Part 26: Test for determining the deformation of rock
mass(Bearing plate method)**

岩石物理力学性质试验规程 第26部分：岩体变形试验（承压板法） 清晰版
(English Translation)

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Table of Contents

Foreword
1 Scope
2 Principle
3 Basic requirements

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 bolt load test;
- Part 31. Rock sound wave velocity test.

This part is part 26 of DZ/T 0276.

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

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 Geological Experiment and Testing Technical Committee (SAC/TC93).

1 Scope

This part of DZ/T 0276 specifies the deformation of rock mass by the bearing plate method.

This part is applicable to rock deformation test in rock physical and mechanical properties test. The rigid bearing plate method is applicable to all kinds of rock masses and flexible pressure bearing.

The plate method is suitable for complete and relatively complete rock masses.

2 Principle

By installing a bearing plate on the surface of the selected rock mass and applying vertical and horizontal stresses on it, according to the elastic theory, the rock mass is calculated.

Deformation parameters under various levels of pressure. The method considers the rock mass to be a homogeneous, continuous, isotropic semi-infinite elastomer.

3 Basic requirements

3.1

The direction of the force of the pilot should be consistent with the actual direction of the bedrock in the test section.

3.2

The test can be carried out under natural water conditions and under artificial water immersion conditions.

3.3

When excavation of the test section, anti-seismic measures shall be taken to reduce the disturbance and damage to the rock mass.

3.4

In the pilot part of the rock mass, the pilot area should be larger than the bearing plate, and the pressing area should be no less than 2500cm²;

The volt difference is not more than 5 mm or not more than 1% of the diameter of the bearing plate.

3.5

Clean the surface of the pilot rock mass, lay a layer of cement slurry, put a rigid bearing plate, tap the bearing plate, and extrude excess cement slurry to make the bearing plate flat.

Line pilot surface. The thickness of the cement slurry is not more than 1% of the diameter of the bearing plate, and the generation of bubbles in the cement slurry should be prevented.

3.6

Outside the bearing plate, the surface of the rock mass within the test affected area shall be flat, without loose rock blocks and stone shovel.

3.7

The pilot surface shall be perpendicular to the predetermined direction of force.

3.8

The distance from the edge of the bearing plate to the side wall or bottom plate of the test hole shall be greater than 1.5 times the diameter of the bearing plate; the edge of the bearing plate to the hole or palm the distance of the sub-surface should be greater than 2.0 times the diameter of the bearing plate; the distance from the edge of the bearing plate to the free surface should be greater than 6.0 times the diameter of the bearing plate.

3.9

The distance between the edges of the two pilot bearing plates shall be greater than 3.0 times the diameter of the bearing plate.

3.10

The lithology of the rock mass should be the same within the depth range of 3.0 times the pressure plate below the pilot surface.

3.11

The reaction force of the pilot should be able to withstand sufficient reaction. The range should generally be no less than (30 x 30) cm², the surface of the rock should Chiseled.

3.12

The geological description shall include the following.

- a) Test section excavation and pilot preparation methods and occurrences.
- b) Pilot number, location, size; test segment number, location, elevation, bearing, depth.
- c) Rock name, color, structure and main mineral composition.
- d) The type, occurrence, width, extensibility, density, filling properties of the rock mass, and the relationship with the direction of the force.
- e) Weathering state and hydrogeological conditions of the rock mass in the test section.