NATIONAL STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

Standard for Test Method of Mechanical Properties on Ordinary Concrete

普通混凝土力学性能试验方法标准

GB/T 50081-2002

Approving Department: Ministry of Construction of the People's Republic of China
Date of implementation: June 1, 2003

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NOTICE

This code is written in Chinese and English. The Chinese text shall be taken as the ruling one in the event of any inconsistency between the Chinese text and the English text.

Notice of Promulgation for Ministry of Construction of the People's Republic of China

No. 102

Notice on Promulgation of the national standard "Standard for Test Method of Mechanical Properties on Ordinary Concrete"

Hence "Standard for Test Method of Mechanical Properties on Ordinary Concrete " has been approved as the national standard with a serial number of GB/T 50081--2002, which shall come into force upon June 1st, 2003. At the same time, the former "Standard for Test Method of Mechanical Properties on Ordinary Concrete" GBJ 81-85 is superseded.

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Ministry of Construction of the People's Republic of China

January 10, 2003

Preface

According to the requirement of "Notice on Promulgation of "Plan for Preparation and Modification of National Standards for Project Construction 1998" Document JB [1998] No.94 the Ministry of Construction of PRC, the standard group revised the former national standard Test Method of Mechanical Properties on Ordinary Concrete" GBJ 81-85, based on the extensive investigation and research, carefully summarizing the experience of practice, with reference to the advanced standards of foreign countries and having obtained extensive opinions.

Main technical contents of this Standard include: I General; II Sampling; III Size of Test Pieces; IV Testing Equipment; V Manufacturing and Maintenance of Test Pieces; VI Compressive-Strength Test; VII Axis Compressive-Strength Test; VIII Test for Static Modulus of Elasticity in Compression; IX Split-Crack Test of Tensile-Strength; X Flexure-Strength Test; Appendix A Manufacturing and Maintenance of Test Pieces of Circular Cylinder; Appendix B Compressive-Strength Test for Pieces of Circular Cylinder; Appendix C Static-Modulus Test of Elasticity in Compression for Pieces of Circular Cylinder; Appendix D Split-Crack Test of Tensile-Strength for Pieces of Circular Cylinder; and the part "Word Dictions of the Standard".

Main contents which are revised include: 1. In order to be in line the international standard, added in appendixes of the new standard are the manufacturing and testing methods on all mechanical properties of the circular cylinder; 2. Higher requirements are put forward on the temperature and humidity of the standard maintenance room of the former code. The standard maintenance room formerly with the temperature of 20±3℃ and humidity over 90% is revised to be the one of temperature of 20±2℃ and humidity over 95%, which is consistent with the ISO testing methods; 3. After the verification of a series of tests, static-modulus test of elasticity in compression on Concrete equals the ISO standard test; 4. More scientific and reasonable testing methods are brought forwards on mechanical properties of high-strength concrete with the grade no less than C60; 5. Standardized requirements are presented on the instrument and equipment of testing, with the corrections on some units of measurement in terms of physical concepts; and 6. What the test report shall include is proposed.

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Contents

1 General

1.0.1 The standard has been worked out for the purpose of further regulation on testing methods of concrete and improving the test accuracy and level, with a uniformed test method on mechanical properties of concrete when qualities of concrete engineering or precast concrete units are inspected or controlled.

1.0.2 This standard applies to the tests on mechanical properties of ordinary concrete in the industrial and civil buildings and general structures, including the tests of compressive strength, axis compressive strength, static-modulus of elasticity in compression, split-crack of tensile strength, and flexure strength.

1.0.3 As to tests done according to the testing methods of this standard, the report or records of test shall involve the following:

1 Contents provided by the client:

1) Name of Client
2) Engineering name and Construction Part
3) Name of the Project required to be inspected
4) Other contents to be instructed

2 Contents offered by the Manufacturing Unit of Test Pieces

1) Code number of test pieces
2) Manufacturing date of test pieces
3) Grade of concrete
4) Shape and size of the test pieces
5) Varieties, specifications, place of production and concrete proportioning for raw materials
6) Maintenance conditions
7) Age period of testing
8) Other contents to be instructed

3 Contented offered by the inspecting unit

1) The receiving date of test pieces
2) Shape and size of test pieces
3) Test number
4) Test date
5) Name, type and number of instrument equipment
6) Temperature of test room
7) Maintenance conditions & age period of test
8) Grade of concrete
9) Inspection results
10) Other contents to be instructed

1.0.4 Besides complying with this Standard, test methods for mechanical properties of ordinary concrete shall also complies with other relevant current national compulsory standards.

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