

GB

NATIONAL STANDARD
OF THE PEOPLE'S REPUBLIC OF CHINA
中华人民共和国国家标准

GB/T 50107-2010

Standard for Evaluation of Concrete
Compressive Strength
混凝土强度检验评定标准

Issued on: May 31, 2010

Implement on: January 1, 2010

**Issued by Ministry of Housing and Urban-Rural Development and General
Administration of Quality Supervision, Inspection and Quarantine of the
People's Republic of China**

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Chief Development Department: Ministry of Housing and Urban-Rural Development of the
People's Republic of China

Approval Department: Ministry of Housing and Urban-Rural Development of the People's
Republic of China

Implementation Date: December 1, 2010

China Architecture and Building Press

2010 Beijing

Ministry of Housing and Urban-Rural Development of the People's Republic of China
Announcement
No. 594

**Notice on the Publishing the National Standard "Standard for
Evaluation of Concrete Compressive Strength"**

"Standard for Evaluation of Concrete Compressive Strength" has been approved as national standard with serial number is GB/T 50107-2010 and it is implemented since December 1, 2010. The former GBJ 107-87 "Standard for Evaluation of Concrete Compressive Strength" shall be abolished simultaneously.

Authorized by the Standard Rating Research Institute, this code is published and distributed by China Architecture and Building Press.

Ministry of Housing and Urban-Rural Development of the People's Republic of China
May 31, 2010

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Foreword

According to the requirements of Document Jian Biao [2003]NO.102 issued by Ministry of Construction "Notice on Printing the Development and Revision Plan of National Engineering Construction Standards in 2002~2003", the drafting group of standard revised this standard through extensive investigation and study by earnestly summing up and accumulating the experiences in actual practices and by referring to the relevant international standards and foreign advanced standards as well as the relevant opinions.

This standard with the main contents as follows: 1 General Provisions; 2 Terms and Symbols; 3 Basic requirements; 4 Sampling and Testing; 5 Evaluation of Conformity for Compressive Strength.

The main revised contents of this standard are: 1 Add the terms and symbols; 2 Supplement the provisions for the sampling frequency of specimens; 3 Add the conversion coefficient determining method for the nonstandard size specimens of strong concrete at or over C60; 4 Amend the standard deviation calculation formula of the standard deviation known scheme in evaluation methods; 5 Amend evaluation provisions of standard deviation unknown scheme in evaluation methods; 6 Amend the evaluation provision of non-statistic method in evaluation methods.

Ministry of Housing and Urban-Rural Development take the charge of this standard and China Academy of Building Research is responsible for the explanation of specific technical contents. If there is any complaint or suggestion, please contact the administrative group of national standard "Standard for Evaluation of Concrete Compressive Strength" of Institute of Building Materials of China Academy of Building Research (Address: No. 30, North 3rd Ring East Road, Beijing, China; post code: 100013; E-mail: standards@cabr.com.cn).

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Participating development organizations:

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Hunan University

Beijing Construction Quality Safety Supervision Management Head Station

Shanghai Jiangong Construction Material Co., Ltd.

Xi'an University of Architecture and Technology

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NOTE: The English version hereof has been translated directly from the openly-published Chinese standard GB/T 50107-2010. In the event of any discrepancy in the process of implementation, the Chinese version shall prevail.

1 General Provisions

1.0.1 This standard is established to unify the method for evaluation of concrete compressive strength and ensure the strength of concrete meeting the quality requirements of concrete project.

1.0.2 This standard is applicable to evaluation of concrete compressive strength.

1.0.3 The evaluation of concrete compressive strength shall not only conform to this standard but also the provisions of current relevant national standard.

2 Terms and Symbols

2.1 Terms

2.1.1 Concrete

It refers to the engineering material formed by the cement, aggregate and water at a certain mixture proportion after stirring, forming, curing and hardening.

2.1.2 Age of concrete

It refers to the elapsed time of concrete from the beginning of mixing, by day or hour.

2.1.3 Strength of concrete

It is the mechanical property of concrete characterizing its ability to resist external force. The strength of concrete in this standard refers to concrete cube compressive strength.

2.1.4 Evaluation of conformity

It refers to the judgment to determine whether the strength of concrete is qualified or not according to certain regulations.

2.1.5 Inspection batch

It is composed by qualified concrete and the total concrete used for evaluation of conformity.

2.1.6 Inspection period

It refers to the specified statistic time to determine the standard deviation of concrete strength of inspection batch.

2.1.7 Sample size

It refers to the group number of concrete specimens representing inspection batch and used to evaluate quality.

2.2 Symbols

$m_{f_{cu}}$ ——The average value of concrete cube compressive strength at the same inspection batch;

$f_{cu,k}$ ——The standard value of concrete cube compressive strength;

$f_{cu,min}$ ——The minimum value of concrete cube compressive strength at the same inspection batch;

$S_{f_{cu}}$ ——The standard deviation of concrete cube compressive strength at the same inspection batch by the evaluation methods with unknown standard deviation;

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