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NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

P GB 50010-2010

Code for Design of Concrete Structures

混凝土结构设计规范

Issued on August 18, 2010 Implemented on July 01, 2011

Jointly issued by the Ministry of Housing and Urban-rural Development (MOHUD) and the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) 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:
July 1, 2011

China Architecture and Building Press

中国建筑工业出版社

2010 Beijing

Announcement of the Ministry of Housing and Urban-Rural Development of the People's Republic of China

NO.743

Announcement on Publishing the National Standard of "Code for Design of Concrete Structures"

"Code for Design of Concrete Structures" has been approved as a national standard with a serial number of GB 50010-2010, and it shall be implemented from July 1, 2011. Therein, Articles 3.1.7, 3.3.2, 4.1.3, 4.1.4, 4.2.2, 4.2.3, 8.5.1, 10.1.1, 11.1.3, 11.2.3, 11.3.1, 11.3.6, 11.4.12 and 11.7.14 are compulsory provisions and must be enforced strictly. The former "Code for Design of Concrete Structures" (GB 50010-2002) shall be abolished simultaneously.

Authorized by the Standard Rating Research Institute of the Ministry of Housing and Urban-Rural Development of the People's Republic of China, 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

August 18, 2010

Foreword

According to the requirements of Document Jian Biao [2006]NO.77 issued by the former Ministry of Construction (MOC) -"Notice on Printing the Development and Revision Plan (First One) of National Engineering Construction Standards in 2006", China Academy of Building Research, in conjunction with the organizations concerned, revised this code through extensive investigations and studies by earnestly summarizing the experiences in actual practices and by referring to the relevant international standards and foreign advanced standards as well as the relevant opinions.

The main contents of this code are: General Provisions, Terms and Symbols, General Requirements, Materials, Structural Analysis, Calculation of Ultimate Limit States, Checking of Serviceability Limit States, Detailing Requirements, Fundamental Requirements for Structural Members, Prestressed Concrete Structural Members, Seismic Design of Reinforced Concrete Structural Members and the relevant appendixes.

There have been some significant changes in this code in the following technical aspects: 1. The provisions on the principles of structural scheme, progressive collapse protection of structure, design of existing structures and design of unbounded prestressing were supplemented; 2. The relevant provisions on the checking of serviceability limit states were amended; 3. The ribbed steel reinforcement of Grade 500MPa was added, and the steel reinforcement of Grade 235MPa was replaced by plain round steel reinforcement of Grade 300MPa; 4. The relevant provisions on the design of compound loaded members were supplemented, and the formulae for the calculation of shear and punching shear bearing capacity were amended; 5. The relevant provisions on the cover thickness and anchorage length of steel reinforcement as well as on the minimum ratio of reinforcement of longitudinal stressed steel reinforcement were adjusted; 6. The relevant provisions on the seismic design of two-way shear members of column, connecting beam, shear wall and other boundary members were supplemented and amended; 7. The relevant requirements of the seismic design of prestressed concrete members and slab-column joints were supplemented and amended.

The provisions printed in bold type in this code are compulsory ones and must be enforced strictly.

The Ministry of Housing and Urban-Rural Development is in charge of the administration of this code and the explanation of the compulsory provisions; the China Academy of Building Research is responsible for the explanation of specific technical contents. The relevant opinions and advice, whenever necessary, can be posted or passed on to the National Standard "Code for Design of Concrete Structures" Administrative Group of China Academy of Building Research (address: No. 30, Beisanhuan East Road, Beijing City, 100013, China).

Chief development organization of this code:

China Academy of Building Research

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Chongqing University
Tianjin University
Southeast University
Zhengzhou University
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Nanjing Architectural Design & Research Institute Co., Ltd.
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Contents

1 General Provisions

1.0.1 This code was formulated with a view to implementing the national technical and economic policies in the design of concrete structures, achieving safety, applicability and economy and guaranteeing quality.

1.0.2 This code is applicable to the design of reinforced concrete, prestressed concrete and plain concrete structures of buildings and general structures. However, it not applicable the design of lightweight aggregate concrete structures or structures using special concrete.

1.0.3 This code was formulated based on the principle of the current national standards "Unified Standard for Reliability Design of Engineering Structures" (GB 50153) and "Unified Standard Reliability Design of Building Structures" (GB 50068). This code gives the basic requirements for the design of concrete structures.

1.0.4 In addition to this code, the design of concrete structures also shall comply with those specified in the relevant current standards of China.

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