

CECS 138:2002

中国工程建设标准化协会标准
Standard of China Association for Engineering Construction Standardization

**给水排水工程钢筋
混凝土水池结构设计规程**

**Specification for structural design of reinforced concrete water tank
of water supply and sewerage engineering**

Beijing 2002

Standard of China Association for Engineering Construction Standardization

给水排水工程钢筋混凝土水池结构设计规程

Specification for structural design of reinforced concrete water tank of water supply
and sewerage engineering

CECS 138:2002

Editor in chief: Beijing General Municipal Engineering Design & Research Institute

Approved by: China Association for Engineering Construction Standardization

Implemented date: Mar. 1st, 2003

China Architecture and Building Press

2002 Beijing

Foreword

This standard originally belongs to the content of Chapter 3 in GBJ 69-84 “The design codes for the water-supply and sewage engineering”. According to the requirements gradually connecting with the international standard and this specification is independently made, in order to apply in engineering and revise in the future. According to this, it is made according to the requirements of No. 11 “The letter about make for recommend standard” JianBiaoXieZi (94) of China Association for Engineering Construction Standardization.

According to the principle of the specification of national standard GB 50068-2001 “Unified standard for reliability design of building structures” and GB 50153-92 “Unified design standard for reliability of engineering structures”, is made adopting the limit design method basing on the probability theory, and accord with the concerned design code of structure specification.

This specification summarize the practice condition in resent more than ten years original standard “Specification for structural design of water-supply and sewage engineering” GBJ 69-84, utilizing the contents of domestic engineering practice and foreign concerned standard, and largely filly and perfecting the content of the original specification.

According to the requirements of “The notice about that the China Association for Engineering Construction Standardization is in charge and organized the test of the recommend engineering construction” by National Planning Commit [1986] 1649 document, now approve the standard of association “The specification for structural design of reinforced concrete water tank of water supply and sewerage engineering”, the Number is CEC 138:2002, recommend to the engineering design, construction, usage units to adopt.

The item 1 in the 3.0.1, 3.0.2, 3.0.3, 3.0.5, 3.0.7, 5.2.1, 5.3.1, 7.1.2 and 7.1.9 suggest that it list in the “The compulsory standard of the engineering construction standard”.

This specification is managed by the Storage construct committee of the China Association for Engineering Construction Standardization CECS/TC10 (Yi No. 2, Yuetan South Street, Xicheng district, Beijing, Beijing General Municipal Engineering Design & Research Institute, Postcode 100045) and is in charge to explain. In usage of there is some to revise and amend, please send the judgment and data to explain unit.

Editor in chief: Beijing General Municipal Engineering Design & Research Institute

Main Drafter: Zhong Qicheng, Shen Shijie, Liu Yusheng

China Association for Engineering Construction Standardization

Dec 30th, 2002

Contents

1 General.....	1
2 Main symbols.....	2
3 Material.....	4
4 Action on structure.....	5
4.1 Class of action class and typical value of action.....	5
4.2 Normal value of permanent action.....	5
4.3 Coefficient of normal value and quasi permanent value of variable action.....	6
5 Specification for basic design.....	8
5.1 General specification.....	8
5.2 Calculation of the limit condition of bearing capacity.....	9
5.3 The check of limit status in the normal usage.....	13
5.4 The calculation of pre-stressed concrete water tank.....	15
6 Static force calculations.....	18
6.1 Calculation for rectangle water tank.....	18
6.2 Calculation for round water tank.....	29
7 Constitution requirement.....	32
7.1 General specification.....	32
7.2 The pre-stressed concrete water tank.....	34
Appendix A The calculation of the maximum crack width for the rectangle cross-section of reinforced concrete in bending or large off-center compressing.....	37
Appendix B The edge reactive coefficient of the quadrilateral hinged bearing two-direction plate in the triangular load or edge moment.....	39
Appendix C The edge reactive coefficient of the quadrilateral hinged bearing two-direction plate whose three edges are fixed and top is free in the triangular load or edge moment.....	41
Appendix D The moment coefficient of the bearing panel in two direction in the action of the wall temperature difference or humidity equivalent temperature difference.....	42
Appendix E The moment coefficient and edge reaction coefficient of the two direction plate in the uneven top water (earth) pressure.....	44
The explanation of words used in this rule.....	46

1 General

1.0.1 In order to reach advanced technology, rational economy, suitable usage and safety and ensure the quality in the structural design of reinforced concrete water tank of water supply and sewerage engineering.

1.0.2 This code is suitable for the common structural design of reinforced concrete water tank of water supply and sewerage engineering in the public facility of town and industrial company and not suitable for the design of reinforced concrete water tank with the special requirement in the industrial enterprise.

1.0.3 This standard is made according to the principle of specification in current national standard “The specification of structural design of water supply and sewerage engineering structure” GB 50069.

1.0.4 When design according to this specification, the determination of common load, the calculation of structure sectional area and the design of the foundation base should all be executed by the specification of the current national standard.

1.0.5 The structural design of reinforced concrete water tank of water supply and sewerage engineering building on the earthquake region, wet pouch soil loessal soil or expansive soil should also accord with the specification of the current national standard.



北京文心雕语翻译有限公司
Beijing Lancarver Translation Inc.

完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email: info@lancarver.com

<http://www.lancarver.com>

线下付款方式：

1. 对公账户：

单位名称：北京文心雕语翻译有限公司

开户行：中国工商银行北京清河镇支行

账 号：0200 1486 0900 0006 131

2. 支付宝账户：info@lancarver.com

注：付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！



银联特约商户