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NATIONAL STANDARD



OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

Code of Design for Sprinkler Systems

自动喷水灭火系统设计规范

GB 50084-2001

(2005 Revised)

Bei jing 2005

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Approving Department: Ministry of Construction of P.R.C.  
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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.

**The Construction Administration  
Department of People's Republic of China**

**Public Notice No. 360**

**The Notice of the Amendments to the National Standard “Code of  
Design for Sprinkler Systems”**

The amendments to “Code of Design for Sprinkler Systems” GB 50084- 2001 is approved as of today and shall be applicable since October 1, 2005. Among those the clauses 5.0.1, 5.0.1A, 5.0.5, 5.0.6, 5.0.7, 6.2.7, 6.5.1, 7.1.3, 8.0.2, 10.3.2, 12.0.1, 12.0.2, 12.0.3 are mandatory and must be enforced. Meanwhile the previous rules become invalid after modification.

The amendments to the regulation and the details shall be published on “The Engineering and Construction Standard” magazine recently.

**The Construction Administration Department of People's Republic of China  
July 15,2005**

# **Notice on Promulgation of Code of Design for Automatic Fire Sprinkler Systems**

Jianbiao No. [2001] 68

According to the requirements of Notice on Printing and Issuing of the Editing and Revising Plan of National Standards of 1995---1996 (Jianbiao [1996]4), the Code of Design for Automatic Fire Sprinkler System jointly revised by the Ministry of Public Security and other relevant departments has been checked by the relevant departments and approved now as a national standard with the number of GB 50084-2001, which is performed with an effective date of July 1, 2001. Among the articles of the standard, 3.0.1, 3.0.2, 4.1.2, 4.2.1, 4.2.2, 4.2.5, 4.2.6, 4.2.9 (section 1, 3, 4), 4.2.10, 5.0.1, 5.0.2, 5.0.3, 5.0.4(section 1), 5.0.5, 5.0.6, 5.0.7, 5.0.8, 5.0.9, 5.0.10, 5.0.11, 6.1.1, 6.1.3, 6.2.1, 6.2.5, 6.2.7, 6.2.8, 6.3.1, 6.3.2, 6.3.3, 6.5.1, 6.5.2, 7.1.1, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, 7.1.8, 7.1.9, 7.1.10, 7.1.11, 7.1.12, 7.1.13, 7.1.14, 7.1.15, 8.0.1, 8.0.2, 8.0.3, 8.0.6, 8.0.7, 8.0.8, 8.0.9, 9.1.3, 9.1.4, 9.1.5, 9.1.6, 9.1.7, 9.1.8, 10.1.1, 10.1.2, 10.1.3, 10.2.1, 10.2.3, 10.2.4, 10.3.1, 10.3.3, 10.4.1, 10.4.2, 11.0.1, 11.0.2, 11.0.3, 11.0.4 and 11.0.5 are compulsory articles; therefore, they must be performed. The original national standard of Code of Design for Automatic Fire Sprinkler System (GBJ 84-85) shall be abolished at the same time.

This code is to be managed by the Ministry of Public Security. The detailed explanations is to be carried out by Tianjin Fire Research Institute of the Ministry of Public Security and published by China Planning Press under the organization of the Standards Ration Research Institute of the Ministry of Construction.

**Ministry of Construction of P.R.C**

April 5, 2001

## Foreword

According to the requirements of Notice on Printing and Issuing of the Editing and Revising Plan of National Standards of 1995~1996 (Jianbiao [1996]4), this code is jointly revised by Tianjin Fire Research Institute of the Ministry of Public Security, Beijing Municipal Bureau of Fire Protection, Shanghai Municipal Bureau of Fire Protection, Sichuan Fire Research Institute of the Ministry of Public Security, Dalian City Bureau of Fire Protection, Shenzhen City Bureau of Fire Protection, Architecture Designing Academy of the Ministry of Construction, Tianjin Municipal Architecture Designing Academy, the First Designing Academy of the Ministry of Chemical Industry, Tianjin University, Shenzhen Jiexing Fire Protection Project Company and so on.

Basing on the relevant national principles on basic construction and the working principle of "focusing on prevention, combining fire protection", on the summary of the research results, designs and current application conditions of the automatic fire sprinkler systems in China, with the abroad suggestions from the relevant researching, designing, producing, fire protection supervising units and universities, referring with the relevant codes of the International Standards Organization and the developed countries such as US and Britain and so on, this revision is made and checked by various relevant departments.

The revised version of this code includes eleven chapters and four appendixes. The contents include: General Rules, Terms and Signs, Hazard Classification of Occupancies, System selection, Basic Design Parameters, System Components, Sprinklers Arrangement, Pipeline, Hydraulic Calculation, Water Supply, Operation and Control, and so on.

The major contents of this revision are as the following:

1. The orders of the chapters are rescheduled according to the work procedures of the designing system;
2. The technical contents in the chapters of Hazard Classification of Occupancies, System and Components Models, Basic Design Parameters, Sprinklers Arrangement, Pipeline, Arrangement of Water Supply and the other relevant chapters and sections are enriched;
3. The technical requirements on the new systems and new sprinklers and various types of warehouses are added;
4. It is specially emphasized that the rational systems and arrangements are very important to guarantee the overall performances of the automatic sprinklers.

The detailed explanation on this code is to be carried out by Tianjin Fire Research Institute of the Ministry of Public Security (Address: 110 #, Weijin South Road, Nankai District, Tianjin, Post Code: 300381).

List of the chief editorial organization, participating organizations and main drafting staffs of this code:

**Chief editorial organization:** Tianjin Fire Research Institute of the Ministry of Public Security

**Participating organizations:** Beijing Municipal Bureau of Fire Protection  
Shanghai Municipal Bureau of Fire Protection  
Sichuan Provincial Bureau of Fire Protection  
Sichuan Fire Research Institute of the Ministry of Public Security  
Dalian City Bureau of Fire Protection  
Shenzhen City Bureau of Fire Protection  
Architecture Designing Academy of the Ministry of Construction  
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# 1 General Rules

**1.0.1** The purpose of this code is to correctly and reasonably design automatic fire sprinkler systems and to provide protection for life and property from fire.

**1.0.2** This code is applicable to the design of the automatic fire sprinkler systems in the newly built, expanded and rebuilt civil and industrial buildings.

This code is not applicable to the design of the automatic fire sprinkler systems in occupancies with special requirements such as gunpowder, explosive, ammunition factories, nuclear power stations and aircraft hangars and so on.

**1.0.3** The design of automatic fire sprinkler systems shall be based on the functions and fire risks of the occupancies. The selection of automatic fire sprinkler systems shall be proper to provide safe, economic, advanced fire protection.

**1.0.4** The system components of the design must comply with the existing relevant standards, and the design should be checked and tested by the Fixed Fire Fighting Quality Supervising and Testing Center.

**1.0.5** In case that the purposes of the occupancies with the designed automatic sprinkler systems are changed, the applicability of existing systems should be collated and examined. In case that the systems are inapplicable, the systems should be designed again according to this code.

**1.0.6** The design of automatic fire sprinkler systems shall comply with not only this code but also the requirements of currency related national design criteria and codes.





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