

NATIONAL STANDARD  
OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准 GB

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**Code for Design of Extinguisher  
Distribution in Buildings**

**建筑灭火器配置设计规范**

**GB 50140-2005**

Chief Editorial Department: Ministry of Public Security of the People's Republic of China Approving  
Department: Ministry of Construction of the People's Republic of China Date of implementation: October 1<sup>st</sup>,  
2005

Beijing 2005

**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. 355

Notice on Promulgation of National Standard "Design Code for Fire Extinguisher Distribution of  
Buildings"

Hence the new code "Design Code for Fire Extinguisher Distribution of Buildings" has been approved as a national standard with a serial number of GB50140-2005, which shall come into force upon October 1st, 2005. Herein, Clauses 4.1.3, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 5.1.1, 5.1.5, 5.2.1, 5.2.2, 6.1.1, 6.2.1, 6.2.2, 7.1.2, 7.1.3 are mandatory clauses, which must be forced strictly. At the same time, the former "Design Code for Fire Extinguisher Distribution of Buildings" GBJ 140-90 is abolished.

This Code is published and issued by China Planning Publishing House under the organization of the Institute of Norm and Ration of the Ministry of Construction of the People's Republic of China.

Ministry of Construction of the People's Republic of China

July 15th, 2005

## Preface

This Code is compiled by Shanghai Fire Research Institute of Ministry of Public Security together with units concerned through a complete revision of the former national standard "Design Code of Fire Extinguisher Distribution of Buildings" GBJ 140-90 according to requirements in the "Notice on Printing and Distributing National Standard Laying Down and Revision Plan for Engineering Construction from Year 2000 to 2001, Document JB [2001] No. 087 of Ministry of Construction.

During the period of compiling of this Code, the compiling group examined and approved this Code finally on the basis of discussion again and again and revising carefully together with units concerned referring to related similar code both home and abroad and after extensive investigation and communication with scientific research, design and using units several times as well as taking counsel widely, taking in design and application experience of fire extinguisher distributions of buildings both at home and abroad in combination with current project practical situation in China.

There are 7 chapters, 13 sections and 6 appendixes in this Code. The main contents for the complete revision of this time shall be as follows:

(1) Added the chapter of "Terms and Symbols"; (2) Added "water-type extinguisher for fire B", changed the status that water-type extinguisher is only used for fire A, not for fire B in the past; (3) the height which fire extinguisher to the ground has been changed from 0.15m and above to 0.08m; (4) the location of fire extinguisher with sight line obstacle shall be provided with luminous signs indicating the location; (5) Basic principle of distribution of fire extinguisher category A; (6) Basic principle of distribution of fire extinguisher category B; (7) Coefficient of reduction and distribution of fire extinguisher; (8) Design and calculation procedure of fire extinguisher distribution of buildings; (9) Changed "extinguishing effective degree of fire extinguisher" to "extinguishing efficiency and common use of fire extinguisher" and use it as one of factors of fire extinguisher selection; (10) When different kinds of fires existing in the same place, shall select general fire extinguisher; (11) Deleted the clause on alkyl halide fire extinguisher; (12) Added stipulations that location and numbers of fire extinguisher distribution shall be determined according to maximum travel distance of fire extinguisher.

If this Code needs to be revised in part, information and clause on revision in part shall be published in the magazine named "Engineering Construction Standardization".

Clauses in bold face letter in this Code shall be mandatory and be implemented strictly.

Ministry of Construction shall be responsible for management and interpretation of mandatory clauses; Fire Administration of Ministry of Public Security shall be responsible for daily management; Shanghai Fire Research Institute of Ministry of Public Security shall be responsible for interpretation of details. During the implementation of this Code, each unit shall summarize experience in combination with actual engineering situation and mail suggestion and comments to Management Group (Address: 601#, Zhongshan Road 2 (South), Shanghai City, China. Post Code: 200032, Fax: 021-54961900) of "Design Code for Fire Extinguisher Distribution of Buildings" of Shanghai Fire Research Institute of Ministry of Public Security if find out any part to be amended or supplemented for reference in future revision

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## 1 General

**1.0.1** In order to distribute reasonably fire extinguisher of buildings (hereafter abbreviated to fire extinguisher), put out effectively incipient fire of industrial and civil buildings, reduce fire losses and protect personal and property safety, we laid down this Code.

**1.0.2** This Code applies to new, rebuilding and expanding industrial and civil buildings for production, usage or storage of combustible.

This Code is not applicable for factory or warehouse for production and storage of explosive, ammunition, blasting supply and fireworks & firecrackers.

**1.0.3** Type, size, quantity and place of fire extinguisher to be distributed shall be contents of fire engineering design and indicated in engineering drawings.

**1.0.4** Distribution of fire extinguisher shall meet current relevant national code and standard besides this Code.

## 2 Terms and Symbols

### 2.1 Terms

#### 2.1.1 Distribution place of fire extinguisher

Place where fire extinguisher to be distributed for existing combustible gas, liquid and solid matters.

#### 2.1.2 Calculation unit

Calculation area for distribution of fire extinguisher

#### 2.1.3 Travel distance

The straight walking distance from distribution point of fire extinguisher to most disadvantaged point of distribution area of fire extinguisher.

#### 2.1.4 Fire rating

Indicates the efficiency of fire extinguisher putting out various fires and composes figures and letters showing extinguishing type.

For type, size and fire rating of distribution of fire extinguisher for buildings, please refer to Appendix A of this Code.

### 2.2 Symbols

#### 2.2.1 Calculation symbols for distribution design of fire extinguisher

$Q$ —The required minimum fire rating (A or B) of calculation unit;

$S$ —Protection area (m<sup>2</sup>) of calculation unit;

$U$ —The maximum protection area (m<sup>2</sup>/A or m<sup>2</sup>/B) of unit fire rating in the scene of fire A or B;

$K$ —Coefficient of correction

$Q_e$ —The required minimum fire rating (A or B) in the distribution place of each fire extinguisher in calculation unit;

$N$ —Numbers (point) of distribution place of fire extinguisher in calculation unit

**2.2.2** For design legend for distribution of fire extinguisher, please refer to Appendix B of this Code.

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