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NATIONAL STANDARD OF  
THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准 **GB**

Code of design for Water spray  
extinguishing systems

水喷雾灭火系统设计规范  
GB50219—95

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NATIONAL STANDARD OF  
THE PEOPLE'S REPUBLIC OF CHINA

**CODE OF DESIGN FOR WATER  
SPRAY EXTINGUISHING SYSTEMS**

GB50219-95

Chief Editorial Department: The Ministry of Public Security,P.R.C  
Approved Department: The Ministry of Construction, P.R.C  
Date of Implementation: September 1, 1995

## **NOTE**

This book is the English translation of Code of design for Water spray extinguishing systems GB50219—95. In the event of any inconsistency between the Chinese-language text of the Code and the present English-language text of the Code, the Chinese-language text shall be taken as ruling.

## **The Document of Ministry of Construction ,P.R.C**

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**Jian biao [1994] No. 807**

***Notice concerning Promulgation of the national standard  
"Code of Design for water spray extinguishing systems"***

According to the requirements of article No. 2390, ji wei ji zong [1987] of the State Development Planning Commission, the "Code of Design for Water Spray Extinguishing Systems" edited by the Ministry of Public Security and other departments concerned has been checked up. Now the "Code of Design for Water Spray Extinguishing Systems" GB50219-95 is authorized as a compulsive national standard. And it is put in force on September 1st, 1995.

This criterion is managed by the Ministry of Public Security, and Tianjin Fire Protection Scientific Research Institute under the Ministry is in charge of the detailed explanation. And the Research Institute of Standards & Norms of the Ministry of Construction is responsible for its publication and circulation.

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

**January 14, 1995**

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## 1 General

- 1.0.1** This criterion is established in order to design water spray extinguishing systems reasonably, reduce the fire hazards and protect personal and property safety.
- 1.0.2** This criterion is applicable to the design of water spray extinguishing system provided for production devices, storage devices or loading and unloading facilities the in new built, expanded and rebuilt projects; It is not applicable to the design of conveyance or movable water spray extinguishing devices.
- 1.0.3** Water spray extinguishing system can be used to put out solid fire, liquid fire whose flash point is over 60°C and electric fire. It can also be used for the protection and cooling of production devices, storage devices or loading and unloading facilities for combustible gases and liquid of Class A, Class B and Class C.
- 1.0.4** Water spray extinguishing system cannot be used to put up the fire that results in burning and explosion due to chemical reaction when it is met with water, as well as the fire in which water would cause serious destruction to the protected objects.
- 1.0.5** Apart from provisions of this code, the design of water spray extinguishing system should accord with the provisions of current relevant national standards and codes.

## 2 Terms & symbols

### 2.1 Terms

- 2.1.1** Water spray extinguishing system  
It is the extinguishing system that is composed of water source, water supply equipment, piping, deluge valves unit, filter and spray nozzle and is used for extinguishing fire by means of spraying water to or protection and cooling of the protected objects.
- 2.1.2** Transfer pipe  
It is the pipe using close discharge nozzle for the detection of fire and transferring signals using air pressure or hydraulic pressure.
- 2.1.3** Response time  
It is the time period from sending out the fire alarm signal by the fire alarm system to water spraying from the most disadvantageous point of the spray nozzle.
- 2.1.4** Spray nozzle  
It is the nozzle that water is decomposed of small and tiny drops using centrifugal or bumping theory under certain hydraulic pressure.
- 2.1.5** Effective range of spray nozzle  
It is the distance between the apogee water can reach and the spout when spray nozzle sprays horizontally.
- 2.1.6** Water spray cone  
It is the cone that is formed under the range of effective range of spray nozzle.
- 2.1.7** Deluge valves unit  
It is the valve unit composed of deluge valve, solenoid valve, pressure switch, hydraulic alarm bell and universal valve that supports.

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