



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Replacing JGJ 255-2012

**General code for waterproofing of building and municipal
engineering**

建筑与市政工程防水通用规范

(English Translation)

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1.0.1

This code is formulated in accordance with relevant laws and regulations to regulate the waterproofing performance of building and municipal engineering, safeguard human health and the safety of life and property, protect ecological environment safety, ensure waterproofing work quality, and meet the requirements of economic and social management.

1.0.2

This code must be implemented for waterproofing of building and municipal engineering.

1.0.3

It is up to the relevant responsibility subjects to determine whether the technical methods and measures adopted in the engineering construction meet the requirements of this code. Innovative technical methods and measures shall be demonstrated and meet the performance requirements in this code.

2.0.1

The waterproofing of works shall adhere to the principles of adapting measures to local conditions, prioritizing prevention, combining waterproofing with drainage, and implementing comprehensive treatment.

2.0.2

The design service life for waterproofing of works shall meet the following requirements:

- 1 The design service life for waterproofing of underground works shall not exceed that of the engineering structure;
- 2 The design service life for waterproofing of roofing works shall not be less than 20 years;
- 3 The design service life for waterproofing of indoor works shall not be less than 25 years;
- 4 The design service life for bridge deck waterproofing of bridge works shall not be less than that of the bridge deck pavement;
- 5 The design service life for the interior waterproof layer of water storage works containing non-corrosive media shall not be less than 10 years.

2.0.3

An engineering is classified into Class A, Class B and Class C according to the importance of its waterproofing function, as detailed in Table 2.0.3.

Table 2.0.3 Waterproofing class of engineering

2.0.5

For underground works constructed by cut and cover method classified as Class II in terms of waterproofing service environment category of engineering, if the annual precipitation at the location of works exceeds 400mm, they shall be selected based on Class I waterproofing service environment.

2.0.6

The waterproofing grade of engineering shall be classified into Grade I, Grade II, and Grade III, based on the category and waterproofing service environment category of engineering. The waterproofing grade of underground works constructed by undercutting method shall be determined based on factors such as the category, geological conditions, and construction conditions of works. For other works, the waterproofing grade shall meet or exceed the following requirements:

1 Grade I waterproofing: Class A works in Class I or II waterproofing service environment; Class B works in a Class I waterproofing service environment.

2 Grade II waterproofing: Class A works in Class III waterproofing service environment; Class B works in Class II waterproofing service environment; Class C works in Class I waterproofing service environment.

3 Grade III waterproofing: Class B works in Class III waterproofing service environment; Class C works in Class II or III waterproofing service environment.

2.0.7

Waterproofing materials used in an engineering shall meet durability requirements, and the membrane waterproof layers shall meet the requirements for joint peel strength and overlap joint impermeability.

3.1.1

The durability of waterproofing materials shall be compatible with the design service life for waterproofing of works.

3.1.2

The selection of waterproofing materials shall meet the following requirements:

- 1 The material performance shall be compatible with the service environmental conditions of works;
- 2 Each waterproof layer shall have a thickness not less than the minimum specified thickness for waterproofing and fortification.
- 3 The limits for environmentally impactful and hazardous substances in the waterproofing material shall meet the requirements.

3.1.3

The burning performance grade of the waterproofing materials for exposed use shall be a minimum of Grade B2.

3.2.1

The construction mix proportion of waterproof concrete shall be determined through testing. Its strength grade shall not be lower than C25, and the impermeability grade of the trial mixed concrete shall be 0.2MPa higher than the design value.

3.2.2

Technical measures shall be taken for waterproof concrete to minimize cracking.

3.2.3

In addition to meeting the requirements for compression resistance, impermeability and crack resistance, waterproof concrete shall also meet the durability requirements of the environment and working conditions where a work is located.

3.3.1

The water resistance test of waterproofing materials shall be conducted under conditions of not less than 23°C for 14d. Upon completion of the test, the materials shall exhibit no signs of cracking, delamination, blistering, or disintegration. When waterproofing materials are used in underground works, the water immersion test shall be conducted under conditions of not less than 23°C for 7d, and the water absorption of the waterproofing membrane shall not exceed 4%. The retention rate of the adhesion strength between the waterproofing coating and the base after water immersion shall not be less than 80%, and for non-curing rubber asphalt waterproofing coatings, the failure mode shall be cohesive failure.