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JGJ 63-2006

Standard of water for concrete

混凝土用水标准

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Foreword

According to the requirements of Document Jian Biao [2004] No. 66 issued by Ministry of Construction (MOC), and after making extensive investigations and studies, conscientiously summing up practical experiences, referring to relevant foreign advanced standards, and basing on extensive solicitation of opinions, the standard developing group has revised the original "Standard of water for concrete mixing" JGJ 63-89.

The main technical contents of this Standard are: 1. General; 2. Terms; 3. Technical requirements; 4. Inspection methods; 5. Inspection rules; 6. Result evaluation.

The main contents revised are: 1. AMEND the standard name to "Standard of water for concrete", INCORPORATE water for concrete maintenance into this Standard; 2. ADD the chapter of terms, CANCEL the chapter of classification; 3. INCORPORATE urban recycling water into this Standard; 4. In the technical requirements for water quality, the pH value of water for prestressed concrete is increased from 4.0 to 5.0, and the pH value of water for reinforced concrete and plain concrete is increased from 4.0 to 4.5; the chloride content (in Cl⁻) in water for reinforced concrete is reduced from 1200 mg/L to 1000 mg/L; the chloride ion content in water for structural concrete with a design service life of 100 years shall not exceed 500 mg/L; the sulfate (in SO₄²⁻) is reduced from 2700 mg/L to 2000 mg/L; CANCEL the sulfide inspection items; ADD the content of alkali content; 5. ADD the radioactivity inspection items; 6. DETERMINE the cement mortar strength test as the only strength comparative test method; 7. All inspection methods refer to national standards; 8. ADD the content of inspection frequency.

The Ministry of Construction is responsible for the management and interpretation of the mandatory provisions in this Standard, and the chief development organization is responsible for the interpretation of specific technical content.

Chief development organization of this Standard: China Academy of Building Research (Address: No. 30, North Third Ring East Road, Beijing; Zip code: 100013)

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1 General

- **1.0.1** In order to ensure the quality of water for concrete, and to make concrete performance meet the technical requirements, this Standard is developed.
- **1.0.2** This Standard applies to water for concrete of industrial and civil buildings and general structures.
- **1.0.3** In addition to complying with this Standard, water for concrete shall also comply with the provisions of existing national standards.

2 Terms

2.0.1 Water for concrete

General term of water for concrete mixing and water for concrete maintenance, including: drinking water, nature surface water, underground water, urban recycling water, concrete enterprise equipment washing water and seawater.

2.0.2 Nature surface water

Water present in rivers, lakes, ponds, swamps and glaciers.

2.0.3 Underground water

Flowing water present in rock crevices or soil pores.

2.0.4 Urban recycling water

Refers to water with use function that is obtain form sewage after appropriate recycling process.

2.0.5 Insoluble substance

Under the specified conditions, the water sample is filtered, the substance that has not pass through the membrane and remained after partially dried.

2.0.6 Soluble substance

Under the specified conditions, the water sample is filtered, the mater that has pass through the membrane and remained after partially dried and evaporated.

5 Inspection rules

5.1 Sampling

- **5.1.1** The water sample for water quality inspection shall not be less than 5 L; the water sample for determination of cement setting time and mortar strength shall not be less than 3 L.
- **5.1.2** The container for collecting water samples shall be non-polluting; the container shall be rinsed for 3 times using water sample to be collected before filling, and shall be sealed for use.
- **5.1.3** The nature surface water should be collected in the center of the water area and below 100 mm from the surface of the water. It shall record and the season, climate, rainfall and the surrounding environment.
- **5.1.4** The underground water shall be collected after rinsing the piping with water, or collected directly by the container. The underground water shall not be collected after being stored in the surface.
- **5.1.5** The urban recycling water shall be collected at the end of the water intake pipe.
- **5.1.6** The concrete enterprise equipment washing water shall collected in the pool and below 100 mm from the surface of the water after deposition.

5.2 Inspection period and frequency

- **5.2.1** The water sample inspection period shall meet the following requirements:
 - **1** The inspection of all the items of water quality should be completed within 7d after sampling;
 - **2** The radioactivity inspection, cement setting time inspection and cement mortar strength forming should be completed within 10d after sampling.
- **5.2.2** The radioactivity of nature surface water, underground water and urban recycling water should be inspected before use. If there is reliable data to prove that there is no radioactive pollution, the inspection may not be carried out.
- **5.2.3** The nature surface water, underground water, urban recycling water and concrete enterprise equipment washing water shall be inspected before use. During use, the inspection frequency should meet the following requirements:
 - 1 Inspect once every 6 months for nature surface water;
 - **2** Inspect once a year for underground water;

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