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

GB/T 749-2008

Replacing GB/T 2420-1981; GB/T 749-2001

**Test method for determining capability of resisting sulfate
corrode of cement**

水泥抗硫酸盐侵蚀试验方法

(English Translation)

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Foreword

This standard is in line with ASTM C452-2006 "Test Method Standard for Potential Swelling Properties of Portland Cement in Sulfate Environment" Sexual degree is not equivalent.

This standard replaces GB/T 749-2001 "Test Method for Potential Swelling Properties of Portland Cement in Sulfate Environments" and GB/T 2420-1981 "Cement anti-sulfate attack rapid test method" two standards.

This standard and GB/T 749-2001, GB/T 2420-1981 compared to the main changes are as follows.

- Change the calculation formula of cement and gypsum to "7.0" to constant A. For Portland cement A is 7.0, other cement is required (GB/T 749-2001 version 7.2, version 3.5);
- test sand by the "GB 178-1977 meet the quality requirements of the standard sand" to "meet the GB/T 17671-1999 requirements of the grain Degree in the range of 0.5mm ~ 1.0mm of intermediate sand" (GB/T 2420-1981 in Chapter 7, the version 4.3.1);
- the temperature of the laboratory is changed from 17 to 25 ° C to "meet the requirements of 4.1 of GB/T 17671-1999" (GB/T 2420-1981 Chapter 9, Edition 4.2.8.1);
- The temperature of the curing box is changed from 20 ± 3 ° C to "meet the requirements of 4.1 in GB/T 17671-1999" (GB/T 2420-1981 Chapter 10, Edition 4.2.8.1);
- soaking solution temperature from 20 ± 3 ° C to 20 ° C ± 1 ° C (GB/T 2420-1981 in Chapter 12, the version 4.3.3);
- the original standard "Figure 1 jack press" and "Figure 2 electric folding machine" to delete (GB/T 2420-1981 in Chapter 1 and Chapter 2, Edition 4.2.1 and 4.2.2)
- increase the requirements of the manual jack press "up and down the plate to be

horizontal and the central part of the same line.

Presses instead of "(GB/T 2420-1981, Chapter 1, Edition 4.2.1);

--- SI system unified to SI international units (the full version of this version).

This standard is proposed by the China Building Materials Federation.

This standard is under the jurisdiction of the National Cement Standardization Technical Committee (SAC/TC184).

This standard is responsible for drafting units. China Building Materials Science Research Institute, China Building Materials Inspection and Certification Center, China Building Materials Meeting.

1 Scope

This standard specifies the cement abrasion resistance test method principle, equipment, test materials, plastic sand composition, test body molding, Test body maintenance and measurement, calculation and results processing.

This standard includes two methods of testing the potential expansion performance test method and the immersion resistance test method, among which the potential expansion performance test Test method (P method) Suitable for Portland cement and other types of cement specified by this method. Test method for soaking corrosion resistance (K method) Suitable Used to specify the cement to use this method.

2 Normative reference documents

The terms of the following documents are incorporated by reference in this standard and are the terms of this standard. Any reference to the date of the document, (Excluding corrigenda) or revisions do not apply to this standard, however, encourage the parties to reach an agreement under this standard Whether the latest version of these files can be used, and the most recent version of the referenced document, which is not dated, applies to this standard.

GB/T 5483 Gypsum and anhydrite GB/T 6682 Analytical laboratory water specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) Test method for strength of cement mortar (ISO method) (idt ISO 679. 1989) GB/T 17671-1999 Test method for dry shrinkage of cement mortar JC/T 603-2004 JC/T 681 planetary cement mortar mixer Test method for rapid strength of cement JC/T 738-2004

3.1 Principle of the method

By adding a certain amount of dihydrate gypsum in the cement, so that the total content of cement in the SO₃ reached a specified amount, making excessive SO₄²⁻ direct and the

impact of cement on the performance of the sulfate resistance of the expansion of the reaction, and then measured by measuring the age of the expansion of the specimen to measure the water Potential anti - sulfate properties of clay.

3.2.1 Sand mixer

Compliance with JC/T 681.

3.2.2 test mode, nail head, pound rod, longer than the long, three edge scraper, measuring cylinder Meet the requirements of JC/T 603-2004 Chapter 4 instruments and equipment.

3.2.3.1 Weigh the gypsum with a balance

The maximum weighing not less than 500g, grading value of not more than 0.5g.

3.2.3.2 Weigh the balance of cement and test sand

The maximum weighing not less than.2000g, grading value of not more than 2g.

3.3.1 Test sand

In line with GB/T 17671-1999 requirements of the particle size range of 0.5mm ~ 1.0mm of the intermediate sand.

3.3.2 Gypsum

Chemical pure dihydrate gypsum or meet the GB/T 5483 requirements of the G class gypsum, fineness requirements in Table 1.