NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 3183-2017

Masonry cement

Issued on: December 29, 2017 **Implemented on: November 1, 2018**

Issued by: AQSIQ; SAC

Table of Contents

1 Scope

This Standard specifies the terms and definitions, composition and materials, codes and strength levels, technical requirements, test methods, inspection rules, exit-factory, delivery and acceptance, packaging, marks, transport and storage of masonry cement.

This Standard is applicable to the masonry cement required for masonry and plastering, cushioning concrete.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 176, Method for chemical analysis of cement

GB/T 203, Granulated blast furnace slag used for cement production

GB/T 1345, Test method for fineness of cement - The 80um sieve

GB/T 1346, Standard test method for water requirement for normal consistency setting time and soundness of the Portland cement

GB/T 1596, Fly ash used for cement and concrete

GB/T 2419, Test method for fluidity of cement mortar

GB/T 2847, Pozzolanic materials used for cement production

GB/T 5483, Gypsum and anhydrite

GB 6566, Limit for radionuclides in building materials

GB/T 6645, Granulated electric furnace phosphorous slag used for cement production

GB/T 9774, Sacks for packing cement

GB/T 12573, Sampling method for cement Setting time, boiling stability are tested according to GB/T 1346.

7.5 Water retention rate Water retention rate is tested according to the method specified in Annex A.

7.6 Strength Strength is tested according to GB/T 17671.

The water consumption of cement mortar is determined according to the fluidity of the mortar to reach 180mm~190mm. The fluidity of the mortar is tested according to GB/T 2419, of which the preparation of rubber sand is according to GB/T 17671. When the strength of the cement is low, it is not easy to demold the mold after 24 h after molding, and the curing time can be extended appropriately. However, the total moisture maintenance time must not exceed 48h and shall be recorded.

7.7 Radioactivity Radioactivity is tested according to GB 6566.

8 Inspection rules

8.1 Batching and sampling

8.1.1 Batching Cement is batched and sampled according to the same strength level before leaving the factory. Bagged cement and bulk cement shall be batched and sampled separately. The cement batch number is according to the annual production capacity of the cement enterprise. Each batch number is a sampling unit.

- annual production capacity of 60x104t or more, no more than 1000t for a batch number;

- annual production capacity of 30x104t ~ 60x104t, no more than 600t for a batch number;

- annual production capacity of 10x104t ~ 30x104t, no more than 400t for a batch number;

- annual production capacity of 10x104t or less, no more than 200t for a batch number.

When the capacity of the bulk cement transport vehicle exceeds the tonnage of the factory batch number specified by the factory, the quantity of the batch

8.3.2.2 The product is rejected when the inspection results fail to meet any technical requirements of Clause 6.

8.4 Inspection report The inspection report shall at least include the exit-factory batch number, exit-factory inspection items, cement components, gypsum type, main components and dosage of grinding aids, and other technical requirements stipulated in the contract. When requested by the user, the producer shall send the inspection results except for the 28d strength within 11d from the date of cement release.

Report the inspection results of 28d strength.

9 Exit-factory, delivery and acceptance

9.1 Exit-factory It is confirmed that the technical indicators and packaging of cement meet the requirements before leaving the factory.

9.2 Delivery and acceptance

9.2.1 The cement quality acceptance at the time of delivery can be either based on the inspection results of the physical samples or the inspection report of the cement of the same batch. The method of acceptance is agreed upon by the purchaser and the supplier, which shall be stated in the contract or agreement.

The supplier has the responsibility to inform the purchaser of the acceptance method. When there is no written contract or agreement, or the acceptance method is not specified in the contract or agreement, the supplier shall indicate on the invoice that the "inspection report of the cement of the same batch of the factory is the basis for acceptance".

9.2.2 When the inspection result of the physical sample is taken as the basis for acceptance, the purchaser and the supplier shall jointly sample and seal before delivery or at the place of delivery. The sampling method is carried out in accordance with the provisions of GB/T 12573. Take 24 kg of sample and dilute into two equal parts. One is kept by the supplier for 40d, and the other is inspected by the purchaser according to the items and methods specified in this Standard.

Within 40d, if the purchaser's inspection considers that the product quality does not meet the requirements of this Standard, and the supplier has another objection, the two parties shall send another sample held by the seller to a qualified testing institution jointly approved by both parties for arbitration.

Cement stability arbitration inspection shall be completed within 10d from the date of sampling.

Annex A (Normative) Method for determining water retention rate of masonry cement

A.1 Principle According to the specified method, use the filter paper to absorb the water in the new cement mortar with a certain degree of fluidity. The water retention rate of the mortar is measured by the amount of water retained in the mortar after water absorption

treatment as a percentage of the mass of the initial water.

A.2 Instruments and equipment A.2.1 Rigid test mode, round, inner diameter of 100mm +/- 1mm, internal effective depth of 25mm +/- 1mm.

A.2.2 Rigid base plate, round, non-porous, diameter of 110mm +/- 5mm, thickness of 5mm +/- 1mm.

A.2.3 Dry filter paper, slow quantitative filter paper, diameter of 110mm +/- 1mm.

A.2.4 Metal mesh, mesh size of 45um, round, diameter of 110mm +/- 1mm.

A.2.5 Metal scraper.

A.2.6 Electronic balance, of which the range is not less than 2kg, the division value is not more than 0.1g.

A.2.7 Shovel, with a mass of 2kg.

A.3 Operation steps A.3.1 Weigh the empty dry test mold mass to the nearest of 0.1g. Weigh 8 unused filter papers to the nearest of 0.1g.

A.3.2 The mortar is stirred according to the provisions of GB/T 17671. The mortar after mixing is measured according to GB/T 2419. When the fluidity of the mortar is in the range of 180mm~190mm, the amount of water added at this time is recorded. When the fluidity of the mortar is less than 180mm or greater than 190mm, re-adjust the water until the fluidity reaches 180mm~190mm.

A.3.3 When the fluidity of the mortar is within the specified range, the remaining mortar in the stirring pot is re-stirred at low speed for 15s. Then use a metal scraper to fill the mortar with the test mold and smooth the surface.