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

GB/T 200-2025

Replacing GB/T 200-2017

Moderate-heat portland cement, low-heat portland cement

中热硅酸盐水泥、低热硅酸盐水泥

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Standardization Administration of the PRC**

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1 Scope

GB/T 200-2025 is the Chinese national standard covering the cements made to hydrate slowly - the heat of hydration at three and seven days that defines each grade, the composition that achieves it, and the strength development, for the mass concrete of a dam where the temperature rise is the governing problem. Issued on 31 October 2025, it takes effect on 1 November 2026, replacing GB/T 200-2017.

This document specifies the composition and materials, codes and strength grades, technical requirements, test methods, inspection rules, exit-factory, delivery and acceptance, packaging, marking, transportation and storage of moderate-heat Portland cement (hereinafter referred to as "moderate-heat cement") and low-heat Portland cement (hereinafter referred to as "low-heat cement"). This document applies to both moderate-heat Portland cement and low-heat Portland cement.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 176 Method for Chemical Analysis of Cement

GB/T 750 Test Method for Autoclave Expansion of Cement

GB/T 1346 Test Methods for Water Requirement of Standard Consistency, Setting Time and Soundness of the Portland Cement GB/T 5483 Natural Gypsum

GB 6566 Limits of Radionuclides in Building Materials

GB/T 8074 Testing Method for Specific Surface of Cement - Blaine Method

GB/T 9774 Sacks for Packing Cement

GB/T 12573 Sampling Method for Cement

GB/T 12959 Test Methods for Heat of Hydration of Cement

GB/T 17671 Test Method of Cement Mortar Strength (ISO method)

GB/T 21372 Portland Cement Clinker

GB/T 26748 Cement Grinding Aids

GB 31893 Limit and Determination of the Water-soluble Chromium (VI) Content for Cement

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 moderate-heat Portland cement A hydraulic cementing material with moderate heat of hydration, made by grinding Portland cement clinker of appropriate composition, and the addition of an appropriate amount of gypsum.

3.2 low-heat Portland cement A hydraulic cementing material with low heat of hydration, made by grinding Portland cement clinker of appropriate composition, and the addition of an appropriate amount of gypsum.

4 Composition and Materials

4.1 Moderate-heat Cement Clinker The content of tricalcium silicate (3CaO SiO_2 , C3S) in moderate-heat cement clinker is not greater than 55.0%, the content of tricalcium aluminate ($3\text{CaO Al}_2\text{O}_3$, C3A) is not greater than 6.0%, and the content of free calcium oxide (f-CaO) is not greater than 1.0%.

4.2 Low-heat Cement Clinker The content of dicalcium silicate (2CaO SiO_2 , C2S) in low-heat cement clinker is not less than 40.0%, the content of tricalcium aluminate is not greater than 6.0%, and the content of free calcium oxide is not greater than 1.0%.

4.3 Natural Gypsum Natural gypsum shall conform to Class G or Class M Grade II (inclusive) or above as specified in GB/T 5483.

4.4 Cement Grinding Aids Cement grinding aids may be added during the grinding of medium-heat cement and low-heat cement. The amount added shall not exceed 0.5% of the mass of medium-heat cement or low-heat cement, and the cement grinding aids shall

conform to the provisions of GB/T 26748.

5 Codes and Strength Grades

Medium-heat cement, code P MH, strength grade 42.5; Low-heat cement, code P LH, strength grades are divided into

6.1 Chemical Composition

6.1.1 Magnesium oxide (MgO) The content (mass fraction) of magnesium oxide in medium-heat cement and low-heat cement shall not exceed 5.0%. If medium-heat cement and low-heat cement pass the autoclave soundness test, the content (mass fraction) of magnesium oxide in medium-heat cement and low-heat cement can be relaxed to 6.0%.

6.1.2 Sulfur trioxide (SO₃) The content (mass fraction) of sulfur trioxide shall not exceed 3.5%.

6.1.3 Loss on ignition (LOI) The loss on ignition (mass fraction) shall not exceed 3.0%.

6.1.4 Insoluble matter (IR) The content (mass fraction) of insoluble matter shall not exceed 0.75%.

6.1.5 Chloride ions (Cl) The content (mass fraction) of chloride ions shall not exceed 0.06%.

6.1.6 Water-soluble chromium (VI) in medium-heat cement and low-heat cement The water-soluble chromium (VI) content shall comply with the requirements of GB 31893.

6.2 Alkali Content (selective indicator) The alkali content is expressed as $w(\text{Na}_2\text{O}) + 0.658 w(\text{K}_2\text{O})$. When the user requests low-alkali medium-heat cement or low-heat cement, the alkali content (mass fraction) in the medium-heat or low-heat cement shall not exceed 0.60% or shall be determined through negotiation between the buyer and seller.