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

GB/T 38216.6-2026

Steel slag - Determination of magnesium oxide content

钢渣 氧化镁含量的测定

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Foreword

This document was issued on 30 July 2026 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 February 2027.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

It is classified under ICS 77.140.99 and Chinese classification H 34.

The document runs to 15 pages. The identification, the dates, the classification and the table of contents on this page are taken from the cover and the printed contents of the standard itself.

This document was drafted in accordance with GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document is Part 6 of GB/T 38216 "Steel slag". The following parts have been published:

- Part 1: Determination of chromium oxide content - Diphenylcarbazide spectrophotometric method;
- Part 2: Determination of fluorine and chlorine content - Ion chromatography;
- Part 3: Determination of free calcium oxide content - EDTA titration and thermogravimetric analysis;
- Part 4: Determination of total iron content - Titanium trichloride-potassium dichromate titration;
- Part 5: Determination of manganese oxide content - Flame atomic absorption spectrometry;
- Part 6: Determination of magnesium oxide content;

- Part 7: Determination of carbon and sulfur content;
- Part 8: Determination of phosphorus content;
- Part 9: Determination of sodium oxide and potassium oxide content.

From the Introduction: steel slag is a by-product of steelmaking containing iron, iron oxide, calcium oxide, magnesium oxide, sulfur trioxide, total carbon, silica, alumina, phosphorus pentoxide, zinc oxide and chromium oxide, as well as fluoride and chloride ions. After processing, part of the slag can be returned to the iron and steel industry as raw material, and stabilised slag is a good green material able to replace part of the natural aggregate. Within the standards system for the comprehensive utilisation of metallurgical solid waste, the methods for determining the chemical composition of steel slag are a very important part, and GB/T 38216 serves the treatment, processing, trade and application of steel slag across nine parts.

1 Scope

GB/T 38216.6 is the sixth part of the Chinese series on steel slag and covers the determination of magnesium oxide. The document describes two methods, flame atomic absorption spectrometry and CyDTA titration, and states the range each covers: 0.10% to 8.00% by mass for the spectrometric method, 0.50% to 30.00% for the titration. Magnesium oxide matters commercially because it governs the volume stability of slag used in cement and in road base: free MgO hydrates slowly and expands, and a batch that expands after it has been laid destroys the structure it was put into. China produces steel slag by the hundred million tonnes a year and is moving it from waste to construction material, which is what makes an agreed measurement method necessary. For a slag processor or a cement plant buying it, this is the method a Chinese acceptance test cites.