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

GB/T 5070-2015

Chemical analysis of chromium-containing refractories

含铬耐火材料化学分析方法

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Table of Contents

1 Scope	1
1 Instruments and equipment 2	3
4 Sample Preparation	2
5 General 2 6 3 test report Determination of loss on ignition	4
7 Determination of silica	4
8 Determination of iron oxide 9	6
10 Determination of alumina 8	11
10 Determination of titanium dioxide Determination of calcium oxide	12
11 Determination of magnesium oxide	13
15 Determination of chromium oxide	14
18 Determination of potassium oxide and sodium oxide 15	22
16 Determination of manganese oxide [w (MnO) <=1%]	24
30 Annex B (informative) inductively coupled plasma emission spectrometer calibration curve established	31

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 5070-2007 "chromium-containing refractories chemical analysis method", compared with the GB/T 5070-2007, the main technical Surgery changes are as follows:

- Increased zirconium (hafnium), phosphorus pentoxide test items (see Chapter 1);
- Increasing zirconia (hafnium), phosphorus pentoxide allowable difference value analysis (see Table 2);
- Increased potassium hydroxide, sodium hydroxide flame photometric detection method (see 15.2);
- Increased the determination of low content elements by ICP-AES method (see Chapter 18);
- Increased EDTA volumetric method zirconium (hafnium) method (see Chapter 17) was measured;
- Increase the informative appendix provides reference plasma emission spectrometer working conditions (see Appendix B). Please note that some of the content of this document may involve patents. Release mechanism of the present document does not

assume responsibility for the identification of these patents. This standard by the National Standardization Technical Committee Refractories (SAC/TC193) and focal points. This standard was drafted. Sinosteel Luoyang Institute of Refractories Co., Ltd., Wuhan, China Metallurgical Metallurgical Construction Research Institute Co., Beijing Lier High Temperature Materials Co., Ltd. Zhejiang independence, Shanxi Province refractories Quality Supervision, Inspection Station. The main drafters of this standard. Caohai Jie, Niu Jun high, Kaohsiung, Yang, Diyao Jie, Yan Guangdong, Liang Xian Lei, Zhu Zhu, Zhao Wei, Wang Hui, Zhangzhou Ming, Zeng Jing, Fang Binxiang, Xu Linlin, Kangrui. This standard replaces the standards previously issued as follows:

--- GB/T 5070-1985, GB/T 5070-2002, GB/T 5070-2007. Chemical analysis of chromium-containing refractories

1 Scope

China's national methods for the chemical analysis of chromium-containing refractories. Magnesite-chrome refractories are exceptionally good at what they do - they resist basic slags and thermal shock better than magnesite alone, which is why they lined cement kilns and non-ferrous furnaces for decades - and they carry a liability that has driven them out of many applications: under oxidising conditions in the presence of alkalis the chromium can be converted to the hexavalent state, which is water-soluble, carcinogenic, and a hazardous waste problem when the lining is eventually torn out. So the chromium content of these materials is analysed both for performance and for what it means at disposal. The standard covers thirteen determinations - loss on ignition, silica, ferric oxide, alumina, titania, calcia, magnesite, chromic oxide, potassium and sodium oxides, manganese oxide, phosphorus pentoxide, and zirconium and hafnium oxides - each over a defined measuring range.

This standard specifies the chemical analysis of chromium-containing refractories. Analysis of this standard are as follows:

- a) loss on ignition (LOI);
- b) silica (of SiO_2);
- c) iron oxide (of Fe_2O_3);
- d) alumina (of Al_2O_3);
- e) Titanium dioxide (- TiO_2);
- f) calcium oxide (of CaO);
- g) magnesium oxide (of MgO);
- h) chromium oxide (Cr_2O_3 as);
- i) potassium oxide (K_2O);

j) sodium oxide (of Na_2O);

k) manganese oxide (of MnO);

l) phosphorus pentoxide (P_2O_5);

m) zirconium (hafnium) [Zr (Hf) O_2]. This standard applies to elemental analysis measurement range shown in Table 1. Table

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 4984 Chemical analysis of zirconium-containing refractories

GB/T 7728 metallurgical products for chemical analysis by flame atomic absorption spectrometry General

GB/T 8170 repair value expressed about the rules and limit values judgment

GB/T 10325, shaped refractory products acceptance sampling inspection rules