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

GB/T 5687.2-2007

Replacing GB/T 4699.1-1984; GB/T 5687.2-1985

**Ferrochromium, silicon chromium and nitrogen-bearing
ferrochromium -- Determination of silicon content -- The
perchloric acid dehydration gravimetric method**

(English Translation)

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Foreword

This section GB/T 5687 instead of GB/T 4699.1-1984 "silicon alloy chemical analysis of gravimetric method for determination of silicon content" and "Ferrochromium chemical determination of silicon content - Gravimetric method" GB/T 5687.2-1985.

This portion of the GB/T 4699.1-1984 and GB/T 5687.2-1985 comparison, the main changes are as follows.

- Measured by the range 1.00% - 6.00% chromium, and 8.00% ~ 95.00% SILICOCHROMIUM adjusted to 0.10% - 60.00%;
- Firing temperature precipitate twice by 1100 °C to 1050 °C;
- For high-carbon ferrochrome, by the size of the sample through a sieve to 0.125mm by 0.088mm sieve;
- Flux adjusted with the amount of volume, the melting temperature and perchloric acid;
- The filtrate was recovered and a second dehydration.

This part is proposed by the China Iron and Steel Association.

This section is under the jurisdiction of Metallurgical Industry Information Standards Institute.

This section is drafted. Sichuan Investment Emei Ferroalloy (Group) Co., Ltd.

1 Scope

GB/T 5687 provisions of this part of the determination of silicon content by perchloric acid dehydration gravimetric method.

This section applies to the determination of chromium iron, vacuum micro-carbon ferrochrome, chromium nitride and silicon ferrochrome alloy silicon content measurement range (mass fraction).

0.10% - 60.00%.

2 Normative references

The following documents contain provisions which, through reference to GB/T 5687 this section, constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 4010 alloy chemical analysis and preparation of samples Principle 3 After the sample is dissolved with hydrochloric acid or alkali fusion, the melt is dissolved in hydrochloric acid, perchloric acid fume treatment, the silicon becomes insoluble silicate. Filtered After washing, the precipitate was calcined at 1050 deg.] C to constant weight, hydrofluoric acid is added so that the silicon was removed by volatilization of silicon tetrafluoride, and then calcined to constant weight, hydrofluoric acid Poor quality before and after treatment, to calculate the percentage of silicon.

4 Reagents and materials

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled water or its equivalent purity water.

4.1

sodium peroxide, solid.

4.2

anhydrous sodium carbonate solids.

4.3

ammonia, rho0.90g/mL.

4.4

perchloric acid, rho1.67g/mL.

4.5

hydrochloride, rho1.19g/mL.

4.6

HCl, 1 + 5.

4.7

HCl, 1 + 9.

4.8

Hydrogen peroxide, rho1.10g/mL.

4.9

hydrofluoric acid, rho1.15g/mL, pure class distinctions.

4.10

sulfate, 1 + 1.

4.11

ammonium thiocyanate solution, 50g/L.

4.12

silver nitrate solution, 10g/L.

5 Sampling and Preparation

In accordance with the provisions of GB/T 4010 will be sampling and sample preparation.
High-carbon ferrochrome, chromium nitride sample shall adopt 0.088mm sieve,
silicon-chromium alloy