

ICS 73.060.10

CCS D 31



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

GB/T 29652-2013

**Direct reduced iron -- Determination of carbon and sulfur --
High frequency combustion with infrared absorption method**

直接还原铁 碳和硫含量的测定 高频燃烧红外吸收法

(English Translation)

Issued on: September 6, 2013

Implemented on: May 1, 2014

Issued by: Standardization Administration of China

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses redrafted law revision using ISO 9686:2006 "DRI carbon dating and/or sulfur content of the high-frequency combustion Infrared absorption method. " this standard and ISO 9686:2006 and the technical differences for the following reasons.

--- On normative references, this standard has been adjusted technical differences, in order to adapt our technical conditions, the adjusted situation Focus is reflected in the status of Chapter 2, "Normative references", the specific adjustments are as follows.

- Use revise international standards of GB/T 6682 instead of ISO 3696;
- Use identical with international standards GB/T 6730.1 instead of ISO 7764;
- Use non-equivalent to international standards of GB/T 12806 replaces ISO 1042;
- Use equivalent to international standards of GB/T 12808 replaces ISO 648;
- Use identical with international standards GB/T 24239 replaces ISO 10835.

--- The standard Chapter 5 adds furnaces, crucible tongs and balance, which is the use of the instrument in the analysis step.

--- The standard Chapter 7 increase in the content "analysis ready", as well as direct reduced iron standard sample to calibrate the calibration curve Party Method so that the method is more feasible.

The standard proposed by China Iron and Steel Association.

This standard by the national iron ore and direct reduced iron Standardization Technical Committee (SAC/TC317) centralized.

This standard was drafted. Shougang Caofeidian Exit Inspection and Quarantine, Metallurgical Industry Information Standards Institute.

1 Scope

This standard specifies the determination DRI carbon and sulfur content of the high-frequency combustion infrared absorption method.

This standard applies to direct reduced iron determination of carbon and sulfur content. Measurement range (mass fraction). 0.05% to 2.5% carbon, sulfur 0.001% to 0.05%.

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 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) GB/T 6730.1 Method for analysis of chemical analysis of iron pre-drying of the sample preparation (GB/T 6730.1-1986, idt ISO 7764. 1985) GB/T 12806 Laboratory glassware single marking flask (GB/T 12806-2011, ISO 1042:1998, NEQ) GB/T 12808 standard laboratory glassware single line pipette (GB/T 12808-1991, eqv ISO 648. 1977) GB/T 24239 Direct reduced iron and hot briquette iron sampling and sample preparation method (GB/T 24239-2009, ISO 10835:2007, IDT) Principle 3 Samples in an induction furnace in an oxygen stream of heated combustion, carbon is converted to carbon dioxide, the sulfur is converted to sulfur dioxide, carbon dioxide and two Sulfur dioxide absorption of a specific wavelength of infrared energy absorbed is proportional to its concentration can accept energy detector according to the change can be measured carbon and sulfur Content.

4 Reagents and materials

Analysis Unless otherwise stated, use only reagents of recognized analytical grade and distilled water or equivalent purity of its water, in line with GB/T 6682 Provisions.

4.1

oxygen than 99.5% purity.

4.2

Dynamic air, nitrogen or compressed air, which contaminants (oil and water) content of less than 0.5%.

4.3

asbestos caustic soda, granular.

4.4

Magnesium perchlorate anhydrous particle size of 0.7mm ~ 1.2mm.

4.5

tungsten particles, the carbon content is less than 0.002%, a sulfur content of less than 0.0005%.

4.6

tin particles, the carbon content is less than 0.002%, a sulfur content of less than 0.0005%.

4.7

iron, the carbon content is less than 0.002%, a sulfur content of less than 0.0005%.