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

GB/T 14849.6-2014

**Methods for chemical analysis of silicon metal-Part 6:
Determination of carbon-Infrared absorption method**

工业硅化学分析方法 第6部分：碳含量的测定 红外吸收法

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Foreword

GB/T 14849 "industrial silicon chemical analysis method" is divided into nine sections.

- Part 1. Determination of iron content 1,10 phenanthroline spectrophotometry;
- Part 2. Determination of aluminum content of chromium Azure -S spectrophotometry;
- Part 3. Determination of calcium content by flame atomic absorption spectrometry, spectrophotometry Chlorophonazo I;
- Part 4. Determination of impurity elements inductor coupled plasma atomic emission spectrometry;
- Part 5. Determination of impurity elements in the X-ray fluorescence spectrometry;
- Part 6. Determination of carbon content by infrared absorption method;
- Part 7. Determination of phosphorus content - Molybdenum blue spectrophotometric method;
- Part 8. Determination of copper content PADAP spectrophotometry;
- Part 9. Determination of titanium content of methane antipyrine spectrophotometric method. This section GB/T 14849 Part 6. This section drafted in accordance with GB/T 1.1-2009 given rules. The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized. This section is responsible for drafting unit. Kunming Metallurgical Institute New Materials Co., Ltd., Kunming Metallurgy Research Institute, Yunnan Yongchang Silicon Co. Shares the company. Participated in the drafting of this section. Yunnan Entry-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch, Luoyang Sino-silicon High-tech Co., Ltd., Zhejiang Sheng silicon industry. The main drafters of this section. to Zhao, Zhang Yunhui, Zhaode Ping, Ruogu Kang, Zhou Jie, Zhou Yun, Wang Honglei, Xie Qin, Jin Bo, Xiao-Jing Yang, Liuying Bo, Tang Fei, Chen Ketong, Nie Changhong. The method of chemical analysis of silicon Part 6. Determination of carbon

content by infrared absorption method

1 Scope

GB/T 14849.6-2014 is the Chinese national standard on methods for chemical analysis of silicon metal-part 6: determination of carbon-infrared absorption method, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 5 December 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2015. Classification: ICS 77.120.10, CCS H12. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This section GB/T 14849 specifies the method for determination of carbon content in the silicon industry. This section applies to the determination of the carbon content of the silicon industry, measurement range. 0.010% to 0.50%.

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 8170 repair value expressed about the rules and limit values judgment

3 Method summary

Sample in the high temperature combustion of the high-frequency induction furnace in an oxygen stream, which impurities are converted to carbon dioxide gas, oxygen gas from the carrier to the infrared detector The measuring chamber, detecting the absorption of specific wavelengths of infrared light intensity, the absorption is proportional to the intensity and concentration of carbon dioxide, according to accept the light detector Varying intensity measured carbon content.

4 Reagents and materials

4.1 oxygen purity of not less than 99.995%.

4.2 flux (mass ratio, W. Sn. Fe = 1.5.0.15.0.3), carbon content less than 0.001%, particle

size of 0.5mm ~ 1.0mm.

4.3 Standard sample. certified national standards for sample (carbon content of 0.010% to 0.50%).

4.4 Crucible. special ultra-low carbon and sulfur analysis, previously calcined at 1100 °C high temperature muffle furnace in 4h, cooled placed in a desiccator.

4.5 crucible tongs.

5 Instruments

5.1 high-frequency infrared carbon and sulfur analyzer.

5.2 Analytical balance, accuracy of 0.0001g.

5.3 muffle furnace, temperature rating of not less than 1200 °C.

6 Sample

It should be able to 0.149mm sieve.