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(JFA/JSA)

Method for chemical analysis of chromium metal—Part 2: Determination of silicon content

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Ferroalloy Association (JFA)/ Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

Consequently **JIS G 1323** : 1989 has been withdrawn and partially replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

JIS G 1323 series consists of the following 7 parts under the general title "*Method for chemical analysis of chromium metal*":

Part 1: Determination of carbon content

Part 2: Determination of silicon content

Part 3: Determination of phosphorus content

Part 4: MDetermination of sulfur content

Part 5: Determination of iron content

Part 6: Determination of aluminium content

Part 7: Determination of various elements—ICP atomic emission spectrometric method

Method for chemical analysis of chromium metal—Part 2: Determination of silicon content

1 Scope

This Japanese Industrial Standard specifies the method for determination of silicon content in chromium metal.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this Standard. The most recent edition of the standard (including amendments) indicated below shall be applied.

JIS G 1301 *Ferroalloys—General rules for chemical analysis*

3 General

General matters of chemical analysis shall be in accordance with **JIS G 1301**.

4 Determination method

The determination method of silicon content shall be in accordance with silicon dioxide gravimetric method. This method is applicable to samples with silicon content of 0.1 % (mass fraction) or over up to and including 1.0 % (mass fraction).

5 Silicon dioxide gravimetric method

5.1 Summary

Decompose a sample with hydrochloric acid, add perchloric acid to generate white fumes, make silicon into insoluble silicic acid, and dissolve soluble salts with water. Separate the precipitate by filtration, ignite to make silicon dioxide, and weigh the mass. Add hydrofluoric acid, heat to vaporize silicon dioxide as silicon tetrafluoride, ignite it and weigh the mass.

5.2 Reagents

The reagents shall be as follows.

5.2.1 Hydrochloric acid (1+5, 1+10)

5.2.2 Perchloric acid

5.2.3 Hydrofluoric acid

5.2.4 Sulfuric acid (1+1)

5.2.5 Hydrogen peroxide

5.3 Amount of sample

Weigh out 3.0 g of the sample.