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(JFA/JSA)

Method for chemical analysis of chromium metal—Part 7: Determination of various elements—ICP atomic emission spectrometric method

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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Consequently **JIS G 1323** : 1989 has been withdrawn and partially replaced with this Standard.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: Determination 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 7: Determination of various elements—ICP atomic emission spectrometric method

1 Scope

This Japanese Industrial Standard specifies the method for determination of aluminium, silicon, phosphorus, vanadium, manganese, iron and nickel in chromium metal using ICP atomic emission spectrometric method. This method is applicable to samples containing the following analytes within the content range given below.

Table 1 Applicable content range

Analyte	Content range % (mass fraction)
Aluminium	0.005 or over up to and incl. 1.0
Silicon	0.005 or over up to and incl. 0.50
Phosphorous	0.005 or over up to and incl. 0.06
Vanadium	0.005 or over up to and incl. 0.10
Manganese	0.005 or over up to and incl. 0.10
Iron	0.010 or over up to and incl. 1.0
Nickel	0.005 or over up to and incl. 0.10

2 Normative references

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

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

JIS K 0116 *General rules for atomic emission spectrometry*

JIS K 0557 *Water used for industrial water and wastewater analysis*

3 General

General matters of chemical analysis shall be in accordance with **JIS G 1301** and **JIS K 0116**.

4 Summary

Sample is decomposed with mixed acid and filtered. The filtrate is stored as a main solution. The insoluble residue is ignited together with the filter paper, melted with fusing mixture or sodium disulfate, and joined to the main solution. The resultant solution is sprayed into the argon plasma of ICP atomic emission spectrometer and the emission intensity of the analytical line of each analyte is measured.