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(JFA/JSA)

**Method for chemical analysis of  
chromium metal—Part 5:  
Determination of iron content**

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Consequently **JIS G 1323**:1989 has been withdrawn and partially replaced with this Standard.

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**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 5: Determination of iron content

## 1 Scope

This Japanese Industrial Standard specifies the method for determination of iron 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 iron shall be in accordance with atomic absorption spectrometry. This method is applicable to samples with iron content of 0.05 % (mass fraction) or over up to and including 1.0 % (mass fraction).

## 5 Atomic absorption spectrometry

### 5.1 Summary

Decompose a sample with perchloric acid, perform residue treatment, spray the solution into acetylene-air flame of atomic absorption spectrometer, and measure the absorbance.

### 5.2 Reagents

The reagents shall be as follows.

#### 5.2.1 Perchloric acid

#### 5.2.2 Hydrofluoric acid

#### 5.2.3 Sulfuric acid (1+1)

#### 5.2.4 Sodium pyrosulfate

#### 5.2.5 Sodium pyrosulfate solution (100 g/L)

**5.2.6 Chromium solution (Cr: 10 mg/ml)** Weigh out 1.00 g of chromium with iron content under 0.005 % (mass fraction) into a beaker (300 ml) and cover with a watch glass. Add 15 ml of perchloric acid, heat to decompose the chromium, continue heating