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**Iron and steel — Determination of nickel
— Part 3: Dimethylglyoxime
spectrophotometric methods**

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act in response to a proposal for establishment of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This Standard partially replaces **JIS G 1216** : 2017, which has been withdrawn.

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JIS G 1216 series consists of the following 3 parts under the general title *Iron and nickel — Determination of nickel*:

Part 1: Nickel dimethylglyoxime gravimetric method

Part 2: Disodium dihydrogen ethylenediamine tetraacetic acid back titration by zinc after precipitation separation of dimethylglyoximate complex

Part 3: Dimethylglyoxime spectrophotometric methods

Iron and steel — Determination of nickel — Part 3 : Dimethylglyoxime spectrophotometric methods

Introduction

This Japanese Industrial Standard has been prepared based on ISO 4939 : 2016, Edition 2, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies, among the nickel determination methods for iron and steel, the dimethylglyoxime spectrophotometric methods.

This method is applicable to nickel contents (mass fraction) from 0.01 % to 5.0 %.

However, the iron hydroxide precipitation separation (8.2) is not applicable if the aliquot of the test solution contains 2 mg or more of manganese and 0.3 mg or more of cobalt. Further, the citric acid masking method (8.3) is not applicable to samples with a manganese content (mass fraction) of 5 % or more.

NOTE 1 Table 1 shows the applicable determination ranges of standards in JIS G 1216 series.

Table 1 Determination ranges of standards in JIS G 1216 series

Standard number	Determination range [mass fraction (%)]
JIS G 1216-1	<u>0.1</u> or over up to and incl. 30
JIS G 1216-2	<u>0.1</u> or over up to and incl. 30
JIS G 1216-3	<u>0.01</u> or over up to and incl. <u>5.0</u>

NOTE 2 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4939 : 2016 *Steel — Determination of nickel — Dimethylglyoxime spectrophotometric method* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and JIS are IDT (identical), MOD (modified), and NEQ (not equivalent) according to ISO/IEC Guide 21-1.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (in-