

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 1216-1 : 2022

(JISF)

**Iron and steel — Determination of nickel
— Part 1: Nickel dimethylglyoxime
gravimetric method**

ICS 77.080.01

Reference number : JIS G 1216-1 : 2022 (E)

PROTECTED BY COPYRIGHT

12 S

G 1216-1 : 2022

Date of Establishment: 2022-03-22

Date of Public Notice in Official Gazette: 2022-03-22

Developed by: The Japan Iron and Steel Federation

Investigated by: The Japan Iron and Steel Federation, Standardization
Center

JIS G 1216-1 : 2022, First English edition published in 2023-07

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

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

© JSA 2023

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HN

PROTECTED BY COPYRIGHT

Contents

		Page
Introduction	1
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	General requirements	2
5	Summary	2
6	Reagents	2
7	Apparatus	3
8	Test portion	4
9	Procedure	4
9.1	Decomposition of sample	5
9.2	Preparation of test solution	5
9.3	Precipitation	6
9.4	Weighing of precipitate	9
9.5	Determination of nickel in filtrates	9
10	Blank test	10
11	Calculation	10
12	Precision	10
Annex A (normative)	Determination of nickel in filtrates by atomic absorption spectrometry	11
Annex JA (informative)	Comparison table between JIS and corresponding International Standard	14

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 This Standard partially replaces **JIS G 1216** : 2017, which has been withdrawn.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister is not responsible for identifying any of such patent rights, published patent application or utility model rights.

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 1 : Nickel dimethylglyoxime gravimetric method

Introduction

This Japanese Industrial Standard has been prepared based on ISO 4938 : 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 nickel dimethylglyoxime gravimetric method.

This method is applicable to nickel contents (mass fraction) from 0.1% to 30 %.

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	0.1 or over up to and incl. 30
JIS G 1216-2	0.1 or over up to and incl. 30
JIS G 1216-3	0.01 or over up to and incl. 5.0

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

ISO 4938 : 2016 *Steel and iron — Determination of nickel content — Gravimetric or titrimetric 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 (including amendments) indicated below shall be applied.

JIS G 1201 *Iron and steel — General rules for analytical methods*

JIS K 0121 *General rules for atomic absorption spectrometry*