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STANDARD

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JIS G 1222-3 : 2025

(JISF)

**Iron and steel — Determination of cobalt
— Part 3: Potentiometric titration method
after separation by ion exchange**

ICS 77.080.01

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In the event of any doubts arising as to the contents,
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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 This Standard partially replaces **JIS G 1222** : 1999, which has been withdrawn.

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JIS G 1222 series consists of the following 3 parts under the general title *Iron and steel — Determination of cobalt —*:

Part 1: Tricobalt tetraoxide gravimetric method after precipitation separation of 1-nitroso-2-naphthol complex

Part 2: Spectrophotometric methods

Part 3: Potentiometric titration method after separation by ion exchange

Iron and steel — Determination of cobalt — Part 3: Potentiometric titration method after separation by ion exchange

Introduction

This Japanese Industrial Standard has been prepared based on ISO 11653 : 1997, Edition 1, 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 the potentiometric titration method after separation by ion exchange, used for determination of cobalt in steel.

This method is applicable to determination of cobalt contents (mass fraction) 5.0 % or over up to and including 17.0 %.

NOTE 1 Table 1 shows the determination ranges for JIS G 1222 series.

Table 1 Determination ranges for JIS G 1222 series

Standard number	Determination range [mass fraction (%)]
JIS G 1222-1	0.5 or over up to and incl. 20
JIS G 1222-2	0.001 or over up to and incl. 20
JIS G 1222-3	5.0 or over up to and incl. 17.0

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

ISO 11653 : 1997 *Steel — Determination of high cobalt content — Potentiometric titration method after separation by ion exchange* (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 1107 *Nitrogen*