JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 1234 : 2020

(JISF)

Iron and steel — Determination of tellurium — Tin (II) chloride reduction spectrophotometric method

ICS 77.040.30
Reference number : JIS G 1234 : 2020 (E)

Date of Establishment: 1981-03-01

Date of Revision: 2020-12-21

Date of Public Notice in Official Gazette: 2020-12-21

Developed by: The Japanese Iron and Steel Federation

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

JIS G 1234 : 2020, First English edition published in 2021-08

Translated and published by: Japanese Standards Association
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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

Printed in Japan HT/HN

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This edition replaces the previous edition (**JIS G 1234**: 1981), which has been technically revised.

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Iron and steel — Determination of tellurium — Tin (II) chloride reduction spectrophotometric method

1 Scope

This Japanese Industrial Standard specifies the determination method of tellurium in steel.

This method is applicable to the determination of tellurium of which the content rate (mass fraction) in steel is 0.01 % or over up to and including 0.30 %.

This Standard does not cover the determination of tellurium in the samples of which the molybdenum content rate (mass fraction) is not less than 1 % or those including selenium.

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 Z 8402-6 *Accuracy (trueness and precision) of measurement methods and results — Part 6 : Use in practice of accuracy values*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in Clause 3 of **JIS G 1201** apply.

4 General matters

General matters common to the determination method shall be in accordance with **JIS G 1201**.

5 Summary

A sample is decomposed with nitric acid and perchloric acid, then white fume treatment of perchloric acid is performed. After the concentration of sample to almost dryness, it is solved in hydrochloric acid. Tellurium in the solution is reduced with tin (II) chloride and suspended by gum arabic, and the absorbency at 420 nm in wavelength is measured using a spectrophotometer.

6 Reagents

The reagents to be used shall be as follows.

6.1 Hydrochloric acid