SLOVENSKI STANDARD
SIST EN ISO 10280:1998

01-avgust-1998

Jeklo in železo - Določanje titana - Spektrofotometrijska metoda z diantipirilmetanom (ISO 10280:1991)

Steel and iron - Determination of titanium content - Diantipyrylmethane spectrophotometric method (ISO 10280:1991)

Stahl und Eisen - Bestimmung von Titan - Photometrische Methode mit Diantipyrylmethan (ISO 10280:1991)

Aciers et fontes - Dosage du titane - Méthode spectrophotométrique au diantipyrylméthane (ISO 10280:1991)

Ta slovenski standard je istoveten z: **EN ISO 10280:1995**

ICS:

77.080.01 Železne kovine na splošno Ferrous metals in general

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English version

Steel and iron - Determination of titanium content - Diantipyrylmethane spectrophotometric method (ISO 10280:1991)

Aciers et fontes - Dosage du titane - Méthode spectrophotométrique au diantipyrylméthane (ISO 10280:1991)

Stahl und Eisen - Bestimmung von Titan - Photometrische Methode mit Diantipyrylmethan (ISO 10280:1991)

This European Standard was approved by CEN on 1995-08-06. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard from ISO/TC 17 "Steel" of the International Organization for Standardization (ISO) has been taken over as a European Standard by the Technical Committee ECISS/TC 20 "Methods of chemical analysis".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 1996, and conflicting national standards shall be withdrawn at the latest by March 1996.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10280:1991 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

Publication	Year	Title	EN	Year
ISO 3696	1987	Water for analytical laboratory use - Specification and test methods	EN ISO 3696	1995

INTERNATIONAL STANDARD

ISO 10280

First edition
1991-05-01

Steel and iron — Determination of titanium content — Diantipyrylmethane spectrophotometric method

Aciers et fontes — Dosage du titane — Méthode spectrophotométrique au diantipyrylméthane

Reference number
ISO 10280:1991(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10280 was prepared by Technical Committee ISO/TC 17, *Steel*.

Annexes A and B of this International Standard are for information only.

International Organization for Standardization
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Steel and iron — Determination of titanium content — Diantipyrylmethane spectrophotometric method

1 Scope

This International Standard specifies a diantipyrylmethane spectrophotometric method for the determination of titanium in steel and iron.

The method is applicable to titanium contents between 0,002 % (*m*/*m*) and 0,80 % (*m*/*m*).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 377-2:1989, *Selection and preparation of samples and test pieces of wrought steels — Part 2: Samples for the determination of the chemical composition.*

ISO 385-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

ISO 648:1977, *Laboratory glassware — One-mark pipettes.*

ISO 1042:1983, *Laboratory glassware — One-mark volumetric flasks.*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

ISO 5725:1986, *Precision of test methods — Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests.*

3 Principle

Dissolution of a test portion in hydrochloric, nitric and sulfuric acids.

Fusion of the residue with potassium hydrogen sulfate.

Formation of a yellow complex with 4,4′-diantipyrylmethane.

Spectrophotometric measurement of the coloured complex at a wavelength of about 385 nm.

4 Reagents

During the analysis, unless otherwise stated, use only reagents of recognized analytical grade and only grade 2 water as specified in ISO 3696.

4.1 Iron, of high purity containing less than 2 µg Ti/g.

4.2 Potassium hydrogen sulfate ($KHSO_4$).

4.3 Sodium carbonate (Na_2CO_3), anhydrous.

4.4 Hydrochloric acid, ρ about 1,19 g/ml.

4.5 Nitric acid, ρ about 1,40 g/ml.

4.6 Hydrofluoric acid, ρ about 1,15 g/ml.

4.7 Hydrochloric acid, ρ about 1,19 g/ml, diluted 1 + 1.

4.8 Hydrochloric acid, ρ about 1,19 g/ml, diluted 1 + 3.

4.9 Sulfuric acid, ρ about 1,84 g/ml, diluted 1 + 1.

4.10 Tartaric acid solution, 100 g/l.