

Steel and iron - Sampling and preparation of samples for the determination of chemical composition

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 14284:2003 sisaldab Euroopa standardi EN ISO 14284:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 14284:2003 consists of the English text of the European standard EN ISO 14284:2002. This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This International Standard specifies methods for sampling and sample preparation for the determination of the chemical composition of pig iron, cast iron and steel. Methods are specified for use with both liquid and solid metal.	Scope: This International Standard specifies methods for sampling and sample preparation for the determination of the chemical composition of pig iron, cast iron and steel. Methods are specified for use with both liquid and solid metal.
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Võtmesõnad: castings, chemical analysis and testin, chemical analysis and testing, chemical composition, definition, definitions, determination, iron, pigs, pigs (castings), sampling, sampling methods, specimen preparation, steels

ICS 77.080

English version

Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996)

Fontes et aciers - Prélèvement et préparation des échantillons pour la détermination de la composition chimique (ISO 14284:1996)

Eisen und Stahl - Entnahme und Vorbereitung von Proben für die Bestimmung der chemischen Zusammensetzung (ISO 14284:1996)

This European Standard was approved by CEN on 21 July 2002.

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 Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of ISO 14284:1996 has been prepared by Technical Committee ISO/TC 17 "Steel" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 14284:2002 by Technical Committee EC/SS/TC 20 "Methods of chemical analysis of ferrous products", the Secretariat of which is held by SIS.

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 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.

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

Endorsement notice

The text of ISO 14284:1996 has been approved by CEN as EN ISO 14284:2002 without any modifications.

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).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 377	1997	Steel and steel products - Location and preparation of samples and test pieces for mechanical testing	EN ISO 377	1997

INTERNATIONAL
STANDARD

ISO
14284

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**Steel and iron — Sampling and preparation
of samples for the determination of chemical
composition**

*Fontes et aciers — Prélèvement et préparation des échantillons pour
la détermination de la composition chimique*



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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 14284 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 1, *Methods of determination of chemical composition*.

It cancels and replaces ISO 377-2:1989, of which it constitutes a technical revision.

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

Steel and iron — Sampling and preparation of samples for the determination of chemical composition

1 Scope

This International Standard specifies methods for sampling and sample preparation for the determination of the chemical composition of pig iron, cast iron and steel. Methods are specified for use with both liquid and solid metal.

2 Normative references

The following standards contain provisions which, through reference in 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:—¹⁾, *Steel and steel products — Location of samples and test pieces for mechanical testing*.

ISO 9147:1987, *Pig-irons — Definition and classification*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 chemical method of analysis: Method for the determination of chemical composition in which the sample is submitted to chemical reaction.

3.2 physical method of analysis: Method for the determination of chemical composition in which the determination of composition is carried out without submitting the sample to chemical reaction, for example an optical emission spectrometric method, an X-ray fluorescence spectrometric method.

3.3 thermal method of analysis: Method for the determination of chemical composition in which the sample is submitted to a process of heating, combustion or fusion.

3.4 melt: Liquid metal from which a sample is removed.

3.5 spoon sampling: Method in which the sample is taken from the melt, or during the pouring of the melt, using a long-handled spoon, and cast into a small mould.

3.6 spoon sample: Sample taken from the melt using a spoon and cast into a small mould.

3.7 probe sampling: Method in which the sample is taken from the melt using a commercially available sampling probe inserted into the melt.

3.8 immersion sampling: Method of probe sampling in which the probe is immersed in the melt where the sample chamber in the probe fills by ferrostatic pressure or gravity.

3.9 suction sampling: Method of probe sampling in which the probe is immersed in the melt where the sample chamber in the probe fills by aspiration.

1) To be published. (Revision of ISO 377-1:1989)