Steel and iron - Determination of sulfur content - Gravimetric method

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 4934:2004 sisaldab Euroopa standardi EN ISO 4934:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 27.04.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 4934:2004 consists of the English text of the European standard EN ISO 4934:2003. This document is endorsed on 27.04.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International Standard specifies a gravimetric method for the determination of the sulfur content in steels and iron, excluding steels containing selenium.	**Scope:** This International Standard specifies a gravimetric method for the determination of the sulfur content in steels and iron, excluding steels containing selenium.

ICS 77.080.01

Võtmesõnad:

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 4934

December 2003

ICS 77.080.01

Supersedes EN 24934 : 1989.

English version

Steel and iron

Determination of sulfur content - Gravimetric method
(ISO 4934 : 2003)

Aciers et fontes – Dosage de soufre – Méthode gravimétrique (ISO 4934 : 2003)

Stahl und Eisen – Bestimmung des Schwefelgehaltes – Gravimetrisches Verfahren (ISO 4934 : 2003)

This European Standard was approved by CEN on 2003-12-10.

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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.

The European Standards exist 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.

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CEN

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

Management Centre: rue de Stassart 36, B-1050 Brussels

Ref. No. EN ISO 4934 : 2003 E

Foreword

International Standard

ISO 4934 : 2003 Steel and iron – Determination of sulfur content – Gravimetric method,

which was prepared by ISO/TC 17 'Steel' of the International Organization for Standardization, has been adopted by Technical Committee ECISS/TC 20 'Chemical analyses', the Secretariat of which is held by SIS, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2004 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of International Standard ISO 4934 : 2003 was approved by CEN as a European Standard without any modification.

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1 Scope

This International Standard specifies a gravimetric method for the determination of the sulfur content in steels and iron, excluding steels containing selenium. The method is particularly suitable as a reference method for the standardization of samples on which certified standard values are to be established.

The method is applicable to a sulfur content between 0,003 % (mass fraction) and 0,35 % (mass fraction).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

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

ISO 5725-1, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions*

ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 5725-3, *Accuracy (trueness and precision) of measurement methods and results — Part 3: Intermediate measures of the precision of a standard measurement method*

ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition*

3 Principle

Dissolution of a test portion in dilute nitric acid in the presence of bromine, or in the mixed acid of nitric acid and hydrochloric acid in the presence of bromine (with the aid of an appropriate device to prevent sulfur losses).

Addition of perchloric acid and evaporation of the solution until white fumes of perchloric acid are evolved.

Filtration of the solution and removal of the dehydrates of silicon, tungsten, niobium,etc.

Addition of a determined quantity of sulfate ions to aid precipitation.

Chromatographic separation of the sulfate ions from the test solution by adsorption on an alumina column, and elution using an ammonium hydroxide solution.

Precipitation of the sulfate ions as barium sulfate under controlled conditions and filtering, washing, heating and weighing.