

**Nikkel, ferronikkel ja niklisulamid.
Väävlisisalduse määramine.
Jodomeetrilise tiitrimise meetod
induktsioonahjus põletamisega**

Nickel, ferronickel and nickel alloys - Determination of sulfur content - Iodimetric titration method after induction furnace combustion

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 27527:2000 sisaldab Euroopa standardi EN 27527:1991 ingliskeelset teksti. Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 27527:2000 consists of the English text of the European standard EN 27527:1991. This document is endorsed on 11.01.2000 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: Standard esitab põletusega titrimetrilise meetodi nikli ja ferronikli väävlisisalduse määramiseks, kui see on vahemikus 0,001 kuni 0,3 massiprotsenti, ning niklisulamite väävlisisalduse määramiseks, kui see on vahemikus 0,002 kuni 0,12 massiprotsenti.	Scope:
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ICS 77.120.40

Võtmesõnad: ferronikkel, induktsioonahjud, jodomeetria, keemiline analüüs, mahtmeetod, nikkel, niklisulamid, põletusanalüüs, sisalduse määramine, väävel

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Descriptors: Nickel, nickel alloys, ferronickel, chemical analysis, determination of sulfur content, volumetric method, iodimetry, combustion analysis, induction furnace.

English version

Nickel, ferronickel and nickel alloys
Determination of sulfur content

Iodimetric titration method after induction furnace combustion
(ISO 7527 : 1985)

Nickel, ferro-nickel et alliages de nickel;
dosage du soufre; méthode par titrage
iodométrique après combustion dans un
four à induction (ISO 7527 : 1985)

Nickel, Ferronickel und Nickellegie-
rungen; Bestimmung des Schwefelgehal-
tes; iodometrisches Titrationsverfahren
nach Verbrennung im Induktionsofen
(ISO 7527 : 1985)

This European Standard was approved by CEN on 1991-11-06 and is identical to the ISO Standard as referred to.

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.

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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

In 1991,

ISO 7527 : 1985 Nickel, ferronickel and nickel alloys; determination of sulfur content; iodimetric titration method after induction furnace combustion

was submitted to the CEN PQ procedure.

Following the positive result of the PQ, CEN/BT agreed to submit ISO 7527 : 1985, without modifications, to Formal Vote.

This European Standard was approved by CEN on 1991-11-06.

In accordance with 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 United Kingdom.

Endorsement notice

The text of International Standard ISO 7527 : 1985 was approved by CEN as a European Standard without any modification.

1 Scope and field of application

This International Standard specifies a titrimetric method after combustion for the determination of the sulfur content of nickel and ferronickel in the range 0,001 to 0,3 % (m/m), and of nickel alloys in the range 0,002 to 0,1 % (m/m). Examples of compositions are given in the annex.

2 References

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

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

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

ISO 5725, *Precision of test methods — Determination of repeatability and reproducibility by inter-laboratory tests*.

ISO 7525, *Nickel — Determination of sulfur content — Methylene blue molecular absorption spectrometric method after generation of hydrogen sulfide*.

3 Principle

Combustion of a test portion in a flow of oxygen at a high temperature in a high frequency induction furnace in the presence of fluxes and accelerators.

Absorption of the sulfur dioxide formed in an acidified starch-iodide solution and continuous titration with potassium iodate standard volumetric solution.

4 Reagents and materials

During the analysis, unless otherwise stated, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

4.1 Oxygen (O₂), 99,5 % (m/m) minimum.

4.2 Ascarite or soda lime, 0,7 to 1,2 mm (14 to 22 mesh).

4.3 Magnesium perchlorate [Mg(ClO₄)₂], 0,7 to 1,2 mm (14 to 22 mesh).

4.4 Glass-wool.

4.5 Crucibles and lids.

4.5.1 Ceramic crucibles shall be of precise dimensions so that the sample is positioned correctly in the induction coil of the furnace (see 9.1).

4.5.2 Pre-ignite the crucibles in air or oxygen in a furnace for not less than 1 h at 1 100 °C and store in a desiccator or closed container. A resistance furnace with a combustion tube through which a flow of oxygen passes may be used. Crucible lids, used to help retain the solid oxidation products in the hot zone, are pre-ignited in a similar manner.

4.6 Fluxes: Low sulfur tin, copper plus tin, copper or vanadium pentoxide (see 9.2).

4.7 Accelerators: Low sulfur copper, iron, tungsten or nickel (see 9.2).

4.8 Nickel, low sulfur of known value [<0,001 % (m/m)].

4.9 Standard reference steel, containing 0,1 to 0,2 % (m/m) sulfur.

4.10 Hydrochloric acid, $\rho_{20} = 1,19$ g/ml, diluted 1 + 99.

4.11 Starch-iodide, solution.

Transfer 9 g of soluble starch to a 50 ml beaker, add 5 to 10 ml of water and stir until a smooth paste is obtained. Pour the mixture slowly into 500 ml of boiling water. Cool, add 15 g of potassium iodide and stir until it is dissolved. Dilute to 1 litre with water and mix.