SLOVENSKI STANDARD
SIST EN 23908:2000

01-december-2000

Hardmetals - Determination of insoluble (free) carbon content - Gravimetric method (ISO 3908:1985)

Hardmetals - Determination of insoluble (free) carbon content - Gravimetric method (ISO 3908:1985)

Hartmetalle - Bestimmung des unlöslichen (freien) Kohlenstoff-Gehaltes - Gravimetrisches Verfahren (ISO 3908:1985)

Métaux-durs - Détermination du carbone insoluble (libre) - Méthode gravimétrique (ISO 3908:1985)

Ta slovenski standard je istoveten z: **EN 23908:1993**

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77.160	Metalurgija prahov	Powder metallurgy

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EUROPEAN STANDARD

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EN 23908:1993

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UDC 669.018.25:620.1:543.21:546.26

Descriptors: Powder metallurgy, sintered products, hard metal, chemical analysis, determination of content, carbon, insoluble matter, gravimetric analysis

English version

Hardmetals - Determination of insoluble (free) carbon content - Gravimetric method (ISO 3908:1985)

Métaux-durs - Détermination du carbone insoluble (libre) - Méthode gravimétrique (ISO 3908:1985)

Hartmetalle - Bestimmung des unlöslichen (freien) Kohlenstoff-Gehaltes - Gravimetrisches Verfahren (ISO 3908:1985)

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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.

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 Central Secretariat has the same status as the official versions.

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

CEN

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

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

Foreword

In 1992 ISO 3908:1985 "Hardmetals - Determination of insoluble (free) carbon content - Gravimetric method" was submitted to the CEN Primary Questionnaire procedure.

Following the positive result of the CEN/CS Proposal ISO 3908:1985 was submitted to the CEN Formal Vote. The result of the Formal Vote was positive.

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 October 1993, and conflicting national standards shall be withdrawn at the latest by October 1993.

According to the Internal Regulations of CEN/CENELEC, 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 the International Standard ISO 3908:1985 was approved by CEN as a European Standard without any modification.

NOTE: The European references to international publications are given 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/HD	Year
ISO 3907		Hardmetals - Determination of total carbon content - Gravimetric method	EN 23907	

International Standard 3908

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Hardmetals — Determination of insoluble (free) carbon content — Gravimetric method

Métaux-durs — Dosage du carbone insoluble (libre) — Méthode gravimétrique

Second edition — 1985-02-15

UDC 621.762 : 546.26 : 543.21 **Ref. No. ISO 3908-1985 (E)**

Descriptors : powder metallurgy, carbides, sintered products, hardmetals, chemical analysis, determination of content, carbon, gravimetric analysis.

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3908 was prepared by Technical Committee ISO/TC 119, *Powder metallurgy*.

ISO 3908 was first published in 1976. This second edition cancels and replaces the first edition, of which it constitutes a technical revision.

Printed in Switzerland

Hardmetals — Determination of insoluble (free) carbon content — Gravimetric method

1 Scope

This International Standard specifies a gravimetric method for determination of the insoluble (free) carbon content of carbides and hardmetals.

2 Field of application

This method is applicable to

— carbides of hafnium, molybdenum, niobium, tantalum, titanium, vanadium, tungsten and zirconium,

— mixtures of these carbides and binder metals, free of lubricant,

— all grades of presintered or sintered hardmetals, produced from these carbides,

having an insoluble carbon content between 0,02 and 0,5 % (m/m).

3 Reference

ISO 3907, *Hardmetals — Determination of total carbon content — Gravimetric method.*

4 Principle

Decomposition of the carbides and determination of the insoluble carbon by a gravimetric method.

5 Reagents

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

5.1 Nitric acid, ϱ 1,20 g/ml.

Add 2 000 ml of nitric acid, ϱ 1,42 g/ml, to 3 000 ml of water.

5.2 Hydrofluoric acid, ϱ 1,12 g/ml.

6 Apparatus

Ordinary laboratory apparatus and

6.1 Apparatus specified in ISO 3907.

6.2 Platinum dish, of capacity 200 ml.

6.3 Filter device : ceramic filter device or bed of suitable refractory fibrous or powder material in a Gooch crucible.

NOTE — If necessary, pretreat the refractory material at 800 to 1 000 °C under strongly oxidizing conditions for a minimum of 3 h. Store it in a desiccator, if pretreated.

6.4 Vacuum filtration assembly.

7 Sampling

7.1 The sample shall be crushed to a powder in a mortar made of a material which does not alter the sample composition. The powder shall pass a 180 µm sieve.

7.2 The analysis shall be carried out on two or three test portions.

8 Procedure

8.1 Test portion

Weigh, to the nearest 0,01 g, approximately 2,5 g of the test sample.

8.2 Attack

Transfer the test portion (8.1) into the platinum dish (6.2). Add 75 ml of the nitric acid (5.1) and place the dish on a steam bath for 5 min. Add, drop by drop, 10 ml of the hydrofluoric acid (5.2), and leave the dish on the steam bath for about 1 h until complete dissolution is obtained.

Cool the solution to ambient temperature.

CAUTION — Hydrofluoric and nitric acids are very dangerous chemicals. Any contact with these acids or inhalation of their vapours must be avoided. All operations with these acids shall be carried out in a fume-cupboard with good ventilation.