



SLOVENSKI STANDARD
SIST EN 31426:1998

01-april-1998

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Determination of gold in gold jewellery alloys - Cupellation method (fire assay) (ISO 11426:1993)

Bestimmung von Gold in Gold-Schmucklegierungen - Dokimatisches Verfahren (Kupellationsverfahren) (ISO 11426:1993)

Dosage de l'or dans les alliages d'or pour la bijouterie-joaillerie - Méthode de coupellation (essai au feu) (ISO 11426:1993)

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Ta slovenski standard je istoveten z: EN 31426:1994

ICS:

39.060 Nakit Jewellery

SIST EN 31426:1998 **en**

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EUROPEAN STANDARD

EN 31426

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1994

UDC 671.12.014:669.215:543.24:546.59

Descriptors: Jewellery, gold alloys, chemical analysis, determination of content, gold, volumetric analysis, metal assay

English version

**Determination of gold in gold jewellery alloys -
Cupellation method (fire assay) (ISO 11426:1993)**

Dosage de l'or dans les alliages d'or pour la
bijouterie-joaillerie - Méthode de cupellation
(essai au feu) (ISO 11426:1993)

Bestimmung von Gold in Gold-Schmucklegierungen
- Dokimastisches Verfahren
(Kupellationsverfahren (ISO 11426:1993)

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This European Standard was approved by CEN on 1994-04-01. 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.

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

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Foreword

The text of the International Standard ISO 11426:1993 prepared by ISO/TC 174 "Jewellery" was submitted to the formal vote and was approved as EN 31426 without any modification.

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 1994, and conflicting national standards shall be withdrawn at the latest by October 1994.

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 United Kingdom.

Endorsement notice

The text of the International Standard ISO 11426:1993 was approved by CEN as a European Standard without any modification.

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NOTE: Normative references to international publications are listed in annex ZA (normative).

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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).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 9202		Jewellery - Fineness of precious metal alloys	EN 29202	

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INTERNATIONAL STANDARD

ISO 11426

First edition
1993-05-01

Determination of gold in gold jewellery alloys — Cupellation method (fire assay)

*Dosage de l'or dans les alliages d'or pour la bijouterie-joaillerie —
Méthode de coupellation (essai au feu)*
(standards.iteh.ai)

SIST EN 31426:1998

<https://standards.iteh.ai/catalog/standards/sist/8630b23d-51fa-4323-8230-4ae3c489817b/sist-en-31426-1998>



Reference number
ISO 11426:1993(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 11426 was prepared by Technical Committee ISO/TC 174, *Jewellery*.

[SIST EN 31426:1998](https://standards.iteh.ai/catalog/standards/sist/8630b23d-51fa-4323-8230-4ae3c489817b/sist-cn-31426-1998)

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International Organization for Standardization

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Determination of gold in gold jewellery alloys — Cupellation method (fire assay)

1 Scope

This International Standard specifies a cupellation method (fire assay) for the determination of gold in gold jewellery alloys. Preferably the gold content of the alloys lies between 333 and 930 parts by mass per thousand (‰) of gold. The procedure applies specifically to gold alloys incorporating silver, copper and zinc. Some modifications are indicated where nickel and/or palladium are present in the so-called white gold alloys.

NOTE 1 This method is intended to be used as the referee method for the determination of fineness in the alloys covered by ISO 9202.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9202:1991, *Jewellery — Fineness of precious metal alloys*.

3 Principle

The gold alloys are inquarted with silver, compounded with lead and cupelled in a cupellation furnace until a precious metal button is obtained. After flattening and rolling, the silver is extracted (parted) in nitric acid and the gold is weighed. Possible systematic errors in the procedure are eliminated by assaying standard proof samples in parallel. White gold alloys containing palladium and/or nickel require some procedural changes.

4 Reagents

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

4.1 Nitric acid, 33 % (m/m), $\rho_{20} = 1,2 \text{ g/cm}^3$, free of halide.

4.2 Nitric acid, 49 % (m/m), $\rho_{20} = 1,3 \text{ g/cm}^3$, free of halide.

4.3 Lead, assay grade, free of precious metals and bismuth, as foil, beads or tablets.

4.4 Silver, for inquartation, minimum purity 999,9 parts by mass per thousand (‰), free of gold and platinum group metals.

4.5 Pure gold, for proof samples, minimum purity 999,9 parts by mass per thousand (‰).

4.6 Palladium, for proof samples, minimum purity 999,9 parts by mass per thousand (‰), free of gold and other platinum group metals.

4.7 Nickel, for proof samples, minimum purity 999 parts by mass per thousand (‰), free of gold and platinum group metals.

4.8 Copper, foil or wire, minimum purity 999 parts by mass per thousand (‰), free of gold and platinum group metals.

4.9 Borax, ($\text{Na}_2\text{B}_4\text{O}_7$), anhydrous.

5 Apparatus

Ordinary laboratory apparatus and

5.1 Cupellation furnace, in which an oxidizing atmosphere can be maintained. N.B. A standard muffle furnace is not satisfactory for this purpose.