Jewellery - Determination of gold in gold jewellery alloys - Cupellation method (fire assay) (ISO 11426:2014)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11426:2016 sisaldab Euroopa standardi EN ISO 11426:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11426:2016 consists of the English text of the European standard EN ISO 11426:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.10.2016.	Date of Availability of the European standard is 12.10.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 39.060

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 11426

October 2016

ICS 39.060

Supersedes EN ISO 11426:1998

English Version

Jewellery - Determination of gold in gold jewellery alloys - Cupellation method (fire assay) (ISO 11426:2014)

Joaillerie, bijouterie - Dosage de l'or dans les alliages d'or pour la bijouterie-joaillerie - Méthode de coupellation (essai au feu) (ISO 11426:2014)

Schmuck - Bestimmung von Gold in Goldschmucklegierungen - Dokimastisches Verfahren (ISO 11426:2014)

This European Standard was approved by CEN on 2 October 2017.

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Ref. No. EN ISO 11426:2016 E

European foreword

The text of ISO 11426:2014 has been prepared by Technical Committee ISO/TC 174 “Jewellery” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11426:2016.

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of an identical text or by endorsement, at the latest by April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11426:1998.

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Endorsement notice

The text of ISO 11426:2014 has been approved by CEN as EN ISO 11426:2016 without any modification.

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Introduction

The following definitions apply in understanding how to implement an ISO International Standard and other normative ISO deliverables (TS, PAS, IWA).

— "shall" indicates a requirement

— "should" indicates a recommendation

— "may" is used to indicate that something is permitted

— "can" is used to indicate that something is possible, for example, that an organization or individual is able to do something

ISO/IEC Directives, Part 2 (sixth edition, 2011), 3.3.1 defines a requirement as an "expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted."

ISO/IEC Directives, Part 2 (sixth edition, 2011), 3.3.2 defines a recommendation as an "expression in the content of a document conveying that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited."

Jewellery — 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. The gold content of the alloys should preferably lie between 333 and 999 parts per thousand (‰).

The procedure is applicable 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, as well as for alloys containing 990 or more parts per thousand (‰) of gold.

This International Standard is intended to be used as the recommended method for the determination of fineness in alloys covered by ISO 9202.

2 Normative references

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

ISO 11596, *Jewellery — Sampling of precious metal alloys for and in jewellery and associated products*

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 weighed. Possible systematic errors in the procedure are eliminated by assaying standard proof samples in parallel.

NOTE Inquartation is the addition of silver to gold alloys in a specific ratio in order to enable the parting of gold from silver by means of nitric acid.

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 (HNO_3), 33 % (mass fraction), with sufficiently low content of halides (check with silver nitrate test).

4.2 Nitric acid (HNO_3), 49 % (mass fraction), with sufficiently low content of halides (check with silver nitrate test).

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

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

4.5 Pure gold, for proof samples