

Jewellery - Determination of silver in silver jewellery alloys - Volumetric (potentiometric) method using potassium bromide (ISO 11427:2014)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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|---|--|
| See Eesti standard EVS-EN ISO 11427:2016 sisaldab Euroopa standardi EN ISO 11427:2016 ingliskeelset teksti. | This Estonian standard EVS-EN ISO 11427:2016 consists of the English text of the European standard EN ISO 11427:2016. |
| 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. |
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ICS 39.060

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English Version

**Jewellery - Determination of silver in silver jewellery
alloys - Volumetric (potentiometric) method using
potassium bromide (ISO 11427:2014)**

Joaillerie, bijouterie - Dosage de l'argent dans les
alliages d'argent pour la bijouterie-joaillerie - Méthode
volumétrique (potentiométrique) utilisant le bromure
de potassium (ISO 11427:2014)

Schmuck - Bestimmung von Silber in
Silberschmucklegierungen - Volumetrisches
(potentiometrisches) Verfahren unter Verwendung
von Kaliumbromid (ISO 11427:2014)

This European Standard was approved by CEN on 26 August 2016.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

The text of ISO 11427:2014 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 11427:2016.

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of an identical text or by endorsement, at the latest by April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.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 31427:1994.

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Endorsement notice

The text of ISO 11427:2014 has been approved by CEN as EN ISO 11427:2016 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

3.3.1 of the ISO/IEC Directives, Part 2 (sixth edition, 2011) 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.”

3.3.2 of the ISO/IEC Directives, Part 2 (sixth edition, 2011) 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 silver in silver jewellery alloys — Volumetric (potentiometric) method using potassium bromide

1 Scope

This International Standard method describes a volumetric method for the determination of silver in jewellery alloys, preferably within the range of fineness stated in ISO 9202.

These alloys may contain copper, zinc, cadmium, and palladium. Apart from palladium, which must be precipitated before commencing titration, these elements do not interfere with this method of determination.

This method is intended to be used as the referee 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 sample is dissolved in dilute nitric acid. The silver content of the resulting solution is determined by titration with standard potassium bromide solution using a potentiometric indication of the equivalence point.

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

4.2 Potassium bromide, solution, $c(\text{KBr}) = 0,1 \text{ mol/l}$.

Dissolve 11,901 g of potassium bromide (dried at 105 °C) in water and dilute to 1 000 ml.

4.3 Disodium dimethylglyoxime octahydrate solution.

Dissolve 10 g of disodium dimethylglyoxime octahydrate in 1 000 ml of water.

4.4 Pure silver, minimum purity 999,9 parts by mass per thousand (‰).