

Jewellery - Determination of palladium in palladium jewellery alloys - ICP-OES method using yttrium as internal standard element (ISO 11495:2014)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11495:2016 sisaldab Euroopa standardi EN ISO 11495:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11495:2016 consists of the English text of the European standard EN ISO 11495:2016.
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 palladium in palladium
jewellery alloys - ICP-OES method using yttrium as
internal standard element (ISO 11495:2014)**

Joaillerie, bijouterie - Dosage du palladium dans les
alliages de palladium pour la joaillerie, bijouterie -
Méthode par ICP-OES utilisant l'yttrium comme étalon
interne (ISO 11495:2014)

Schmuck - Bestimmung von Palladium in
Palladiumschmucklegierungen - ICP-OES Verfahren
unter Verwendung von Yttrium als Internem
Standardelement (ISO 11495:2014)

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

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

The text of ISO 11495:2014 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 11495:2016.

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of an identical text or by endorsement, at the latest by April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

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Endorsement notice

The text of ISO 11495:2014 has been approved by CEN as EN ISO 11495:2016 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 palladium in palladium jewellery alloys — ICP-OES method using yttrium as internal standard element

1 Scope

This International Standard describes a method for the determination of palladium in palladium jewellery alloys, preferably within the range of fineness specified in ISO 9202, by means of inductively coupled plasma optical emission spectrometry (ICP-OES).

The preferred palladium content of the alloys lies between 500 ‰ (parts per thousand) and 950 ‰ palladium.

NOTE This method can be used to analyse other contents of palladium.

This method 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 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

bracketing

running of standards and samples in the following sequence: low standard – sample – high standard – sample – low standard – sample – high standard – sample – low standard – sample – high standard

4 Short description of method

At least two accurately weighed samples are dissolved in aqua regia and made up to an exactly weighed mass. Exactly weighed portions (aliquots) of these sample solutions are mixed with the internal standard and made up to the standard measuring volume.

Using ICP-OES, the palladium content of the sample solution is measured by comparison of the ratio intensities of the spectral emission of palladium (recommended line is 340,45 nm) and yttrium (at 371,03 nm) or other appropriate lines, with the ratios for solutions containing known masses of palladium and yttrium, using the bracketing method.

Other palladium emission lines may be used, but have to be checked for spectral interferences and the instrumental performance.