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STN	**Technológia jadrového paliva Coulometrická skúška plutónia riadeným potenciálom (ISO 12183: 2016)**	**STN EN ISO 12183** 40 1012

Nuclear fuel technology - Controlled-potential coulometric assay of plutonium (ISO 12183:2016)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/19

Obsahuje: EN ISO 12183:2019, ISO 12183:2016

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12183

June 2019

ICS 27.120.30

English Version

Nuclear fuel technology - Controlled-potential coulometric assay of plutonium (ISO 12183:2016)

Technologie du combustible nucléaire - Dosage du plutonium par coulométrie à potentiel imposé (ISO 12183:2016)

Kernbrennstofftechnologie - Coulometrische Bestimmung von Plutonium mit kontrolliertem Potential (ISO 12183:2016)

This European Standard was approved by CEN on 8 March 2019.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

The text of ISO 12183:2016 has been prepared by Technical Committee ISO/TC 85 "Nuclear energy, nuclear technologies, and radiological protection" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 12183:2019 by Technical Committee CEN/TC 430 "Nuclear energy, nuclear technologies, and radiological protection" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2019, and conflicting national standards shall be withdrawn at the latest by December 2019.

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Endorsement notice

The text of ISO 12183:2016 has been approved by CEN as EN ISO 12183:2019 without any modification.

INTERNATIONAL STANDARD

ISO 12183

Third edition
2016-08-15

Nuclear fuel technology — Controlled-potential coulometric assay of plutonium

Technologie du combustible nucléaire — Dosage du plutonium par coulométrie à potentiel imposé

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection,* Subcommittee SC 5, *Nuclear fuel cycle*.

This third edition cancels and replaces the second edition (ISO 12183:2005), which has been technically revised.

INTERNATIONAL STANDARD **ISO 12183:2016(E)**

Nuclear fuel technology — Controlled-potential coulometric assay of plutonium

1 Scope

This document describes an analytical method for the electrochemical assay of pure plutonium nitrate solutions of nuclear grade, with a total uncertainty not exceeding ±0,2 % at the confidence level of 0,95 for a single determination (coverage factor, K = 2). The method is suitable for aqueous solutions containing more than 0,5 g/L plutonium and test samples containing between 4 mg and 15 mg of plutonium. Application of this technique to solutions containing less than 0,5 g/L and test samples containing less than 4 mg of plutonium requires experimental demonstration by the user that applicable data quality objectives will be met.

For some applications, purification of test samples by anion exchange is required before measurement to remove interfering substances when present in significant amounts. Refer to Clause 10 for a discussion of interferences and corrective actions. Purification is also appropriate in situations where the purity of the test sample is unknown or when it may fluctuate unpredictably in a manufacturing process.

Clause 11 discusses the changes in application of the method and methodology that can be applied and important considerations when selecting measurement parameters, while still remaining within the intended scope of this document.

2 Normative references

There are no normative references in this document.

