SLOVENSKI STANDARD
SIST EN ISO 13196:2015

01-oktober-2015

Kakovost tal - Presejalna analiza tal za izbrane elemente z energijsko-disperzijsko rentgensko fluorescenčno spektrometrijo z uporabo ročnega ali prenosnega instrumenta (ISO 13196:2013)

Soil quality - Screening soils for selected elements by energy-dispersive X-ray fluorescence spectrometry using a handheld or portable instrument (ISO 13196:2013)

Bodenbeschaffenheit - Screening ausgewählter Elemente in Böden mit handhaltbaren oder tragbaren Röntgenfluoreszenzspektrometern (ISO 13196:2013)

Qualité du sol - Analyse rapide d'une sélection d'éléments dans les sols à l'aide d'un spectromètre de fluorescence X à dispersion d'énergie portable ou portatif (ISO 13196:2013)

Ta slovenski standard je istoveten z: **EN ISO 13196:2015**

ICS:

13.080.10	Kemijske značilnosti tal	Chemical characteristics of soils

SIST EN ISO 13196:2015 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13196

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ICS 13.080.10

English Version

Soil quality - Screening soils for selected elements by energy-dispersive X-ray fluorescence spectrometry using a handheld or portable instrument (ISO 13196:2013)

Qualité du sol - Analyse rapide d'une sélection d'éléments dans les sols à l'aide d'un spectromètre de fluorescence X à dispersion d'énergie portable ou portatif (ISO 13196:2013)

Bodenbeschaffenheit - Screening ausgewählter Elemente in Böden mit handhaltbaren oder tragbaren Röntgenfluoreszenzspektrometern (ISO 13196:2013)

This European Standard was approved by CEN on 16 July 2015.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

The text of ISO 13196:2013 has been prepared by Technical Committee ISO/TC 190 “Soil quality” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 13196:2015 by Technical Committee CEN/TC 345 “Characterization of soils” the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

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Endorsement notice

The text of ISO 13196:2013 has been approved by CEN as EN ISO 13196:2015 without any modification.

INTERNATIONAL STANDARD

ISO 13196

First edition
2013-03-01

Soil quality — Screening soils for selected elements by energy-dispersive X-ray fluorescence spectrometry using a handheld or portable instrument

Qualité du sol — Analyse rapide d'une sélection d'éléments dans les sols à l'aide d'un spectromètre de fluorescence X à dispersion d'énergie portable ou portatif

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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ISO 13196 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

Introduction

X-ray fluorescence spectrometry (XRF) is a quick method for determination of total elemental compositions of soil samples. Unlike analyses by atomic absorption spectroscopy and inductively coupled plasma spectroscopy, XRF needs no digestion step to prepare a test solution to be analysed. Factory pre-set calibrations can be used. Consequently XRF is suitable for the rapid on-site determination of selected elements, mainly heavy metals in screening processes. Typical elements that can be analysed are Cr, As, Se, Cd, Hg and Pb, depending on the instrument. For *in situ* or abbreviated preparation analyses at a site, a battery-powered handheld or portable XRF equipment is required.

When performing analyses at a site, it might be important to have information on the presence of an element and also obtain semiquantitative results. It is often impracticable to carry out calibration using reference materials at the site to be investigated. In these situations, factory pre-set calibrations should be used.

This International Standard describes rapid methods for the on-site analysis of selected elements, including heavy metals, using battery-powered handheld or portable energy-dispersive XRF (ED–XRF).