



**SLOVENSKI STANDARD**  
**SIST EN ISO 10930:2013**  
**01-maj-2013**

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**Kakovost tal - Merjenje obstojnosti talnih agregatov v vodi (ISO 10930:2012)**

Soil quality - Measurement of the stability of soil aggregates subjected to the action of water (ISO 10930:2012)

Bodenbeschaffenheit - Messung der Stabilität von Bodenaggregaten gegen Wasserbewegung (ISO 10930:2012)

Qualité du sol - Mesure de la stabilité d'agréats de sols soumis à l'action de l'eau (ISO 10930:2012)

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SIST EN ISO 10930:2013

Ta slovenski standard je istoveten z: **EN ISO 10930:2013**

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**ICS:**

13.080.05	Preiskava tal na splošno	Examination of soils in general
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EUROPEAN STANDARD

EN ISO 10930

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2013

ICS 13.080.05

English Version

## Soil quality - Measurement of the stability of soil aggregates subjected to the action of water (ISO 10930:2012)

Qualité du sol - Mesure de la stabilité d'agrégats de sols soumis à l'action de l'eau (ISO 10930:2012)

Bodenbeschaffenheit - Messung der Stabilität von Bodenaggregaten gegen Wasserbewegung (ISO 10930:2012)

This European Standard was approved by CEN on 5 February 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

The text of ISO 10930:2012 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 10930:2013 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 August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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# INTERNATIONAL STANDARD

**ISO**  
**10930**

First edition  
2012-05-01

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## **Soil quality — Measurement of the stability of soil aggregates subjected to the action of water**

*Qualité du sol — Mesure de la stabilité d'agrégats de sols soumis à  
l'action de l'eau*

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**ISO 10930:2012(E)****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.

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

ISO 10930 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

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## Introduction

The purpose of the method specified in this International Standard is to provide a realistic analysis of the structural stability of soil aggregates when subjected to the action of weather, cultivation, etc. and to enable the soils to be classified on the basis of the stability of their aggregates.

The methodology is, to a great extent, based on Hénin and Combeau's structural stability test (1958)<sup>[1]</sup>. However, it also includes certain aspects of other methods [Yoder (1936)<sup>[2]</sup>, Emerson (1954)<sup>[3]</sup>, Grieve (1980)<sup>[4]</sup>, Kemper and Rosenau (1986)<sup>[5]</sup>, Matkin and Smart (1987)<sup>[6]</sup>], as well as the results from Le Bissonnais (1988)<sup>[7]</sup>, Le Bissonnais *et al.* (1989)<sup>[8]</sup>, Le Bissonnais and Le Souder (1995)<sup>[9]</sup>, and Le Bissonnais (1996)<sup>[10]</sup>.

The aim of the set of three treatments specified in this International Standard is to provide a means of predicting the behaviour of soil, with respect to its structural stability, for different conditions of soil wetting by water, which simulate different climatic, hydraulic and mechanical conditions that might be encountered in the field. It is therefore recommended that the three treatments be used in order to provide scientific information on the different mechanisms which can destroy soil aggregates. However, the use of the fast wetting test only, which is less time-consuming, can prove sufficient for a simple sample comparison.

The treatments were chosen for the following purposes:

- to distinguish between the various mechanisms;
- to distinguish between the disaggregation phase and the measurement of the result of the disaggregation;
- to express the results in a form that can be easily interpreted by comparison with physical soil behaviour *in situ*.

Following the method proposed in Reference [1], this method recommends the use of ethyl alcohol to ensure that disaggregation is well controlled on the one hand and, on the other hand, to limit the reaggregation of the particles on drying.

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