



SLOVENSKI STANDARD SIST EN ISO 3882:2003

01-december-2003

BUXca Yý U
SIST EN ISO 3882:1999

Kovinske in druge anorganske prevleke - Pregled metod za merjenje debeline (ISO 3882:2003)

Metallic and other inorganic coatings - Review of methods of measurement of thickness (ISO 3882:2003)

Metallische und andere anorganische Überzüge - Übersicht über Verfahren zur Schichtdickenmessung (ISO 3882:2003)

Revetements métalliques et autres revêtements inorganiques - Vue d'ensemble sur les méthodes de mesurage de l'épaisseur (ISO 3882:2003)

Ta slovenski standard je istoveten z: EN ISO 3882:2003

ICS:

17.040.20	Lastnosti površin	Properties of surfaces
25.220.40	Kovinske prevleke	Metallic coatings

SIST EN ISO 3882:2003 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3882

April 2003

ICS 25.220.20; 25.220.40

Supersedes EN ISO 3882:1994

English version

Metallic and other inorganic coatings - Review of methods of measurement of thickness (ISO 3882:2003)

Revêtements métalliques et autres revêtements inorganiques - Vue d'ensemble sur les méthodes de mesurage de l'épaisseur (ISO 3882:2003)

Metallische und andere anorganische Überzüge - Übersicht über Verfahren zur Schichtdickenmessung (ISO 3882:2003)

This European Standard was approved by CEN on 21 March 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 3882:2003 (E)

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Foreword

This document (EN ISO 3882:2003) has been prepared by Technical Committee ISO/TC 107 "Metallic and other inorganic coatings" in collaboration with Technical Committee CEN/TC 262 "Metallic and other inorganic coatings", the secretariat of which is held by BSI.

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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

This document supersedes EN ISO 3882:1994.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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Endorsement notice

The text of ISO 3882:2003 has been approved by CEN as EN ISO 3882:2003 without any modifications.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

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Annex ZA (normative)

Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 1463	1982	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method	EN ISO 1463	1994
ISO 2064	1996	Metallic and other inorganic coatings - Definitions and conventions concerning the measurement of thickness	EN ISO 2064	2000
ISO 2177	1985	Metallic coatings - Measurement of coating thickness - Coulometric method by anodic dissolution	EN ISO 2177	1994
ISO 2178	1982	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method	EN ISO 2178	1995
ISO 2360	1982	Non-conductive coatings on non-magnetic basis metals - Measurement of coating thickness - Eddy current method	EN ISO 2360	1995
ISO 2361	1982	Electrodeposited nickel coatings on magnetic and non-magnetic substrates - Measurement of coating thickness - Magnetic method	EN ISO 2361	1995

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ISO 3497	2000	Metallic coatings - Measurement of coating thickness - X-ray spectrometric methods	EN ISO 3497	2000
ISO 3543	2000	Metallic and non-metallic coatings - Measurement of thickness - Beta backscatter method	EN ISO 3543	2000
ISO 3868	1976	Metallic and other non-organic coatings - Measurement of coating thicknesses - Fizeau multiple-beam interferometry method	EN ISO 3868	1994
ISO 4518	1980	Metallic coatings - Measurement of coating thickness - Profilometric method	EN ISO 4518	1995
ISO 9220	1988	Metallic coatings - Measurement of coating thickness - Scanning electron microscope method	EN ISO 9220	1994
ISO 10111	2000	Metallic and other inorganic coatings - Measurement of mass per unit area - Review of gravimetric and chemical analysis methods	EN ISO 10111	2001

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INTERNATIONAL STANDARD

ISO
3882

Third edition
2003-04-15

Metallic and other inorganic coatings — Review of methods of measurement of thickness

*Revêtements métalliques et autres revêtements inorganiques — Vue
d'ensemble sur les méthodes de mesurage de l'épaisseur*

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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.

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 3882 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 2, *Test methods*.

This third edition cancels and replaces the second edition (ISO 3882:1986), which has been technically revised.

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Introduction

This International Standard summarizes the various methods used for the measurement of coating thickness and describes their working principles. Methods of measuring coating thickness may be either destructive or non-destructive (see Table 1). The information given in Table 2 will assist in the choice of typical instrumental methods suitable for thickness measurements. For all instrumental methods, manufacturers' instructions should be followed.

The thickness ranges covered by the different methods depend on the coating materials, thickness of the coating, substrates and instruments used (see Table 3); e.g., although X-ray spectrometry can be used to measure the thickness of a chromium coating, thicknesses of 20 μm or more cannot be measured with sufficient precision. Similarly, while magnetic methods may be used to measure the thickness of a gold coating over a magnetic steel substrate, many magnetic instruments do not have the sensitivity to measure accurately thicknesses of gold coatings less than 2 μm .

Where a referee method is required the appropriate coating specification should be consulted.

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