



NSAI
Standards

Irish Standard
I.S. EN ISO 2360:2017

Non-conductive coatings on non-magnetic
electrically conductive base metals -
Measurement of coating thickness -
Amplitude-sensitive eddy-current method
(ISO 2360:2017)

I.S. EN ISO 2360:2017

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National Foreword

I.S. EN ISO 2360:2017 is the adopted Irish version of the European Document EN ISO 2360:2017, Non-conductive coatings on non-magnetic electrically conductive base metals - Measurement of coating thickness - Amplitude-sensitive eddy-current method (ISO 2360:2017)

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EUROPEAN STANDARD

EN ISO 2360

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2017

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Supersedes EN ISO 2360:2003

English Version

**Non-conductive coatings on non-magnetic electrically
conductive base metals - Measurement of coating
thickness - Amplitude-sensitive eddy-current method (ISO
2360:2017)**

Revêtements non conducteurs sur matériaux de base
non magnétiques conducteurs de l'électricité -
Mesurage de l'épaisseur de revêtement - Méthode par
courants de Foucault sensible aux variations
d'amplitude (ISO 2360:2017)

Nichtleitende Überzüge auf nichtmagnetischen
metallischen Grundwerkstoffen - Messen der
Schichtdicke - Wirbelstromverfahren (ISO 2360:2017)

This European Standard was approved by CEN on 8 July 2017.

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

EN ISO 2360:2017 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 2360:2017) 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, including for corrosion protection and corrosion testing of metals and alloys” 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of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

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This document supersedes EN ISO 2360:2003.

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Endorsement notice

The text of ISO 2360:2017 has been approved by CEN as EN ISO 2360:2017 without any modification.

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INTERNATIONAL STANDARD

ISO
2360

Fourth edition
2017-07

Non-conductive coatings on non-magnetic electrically conductive base metals — Measurement of coating thickness — Amplitude-sensitive eddy-current method

Revêtements non conducteurs sur matériaux de base non magnétiques conducteurs de l'électricité — Mesurage de l'épaisseur de revêtement — Méthode par courants de Foucault sensible aux variations d'amplitude



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle of measurement	2
5 Factors affecting measurement uncertainty	3
5.1 Basic influence of the coating thickness	3
5.2 Electrical properties of the base metal	3
5.3 Geometry: Base metal thickness	4
5.4 Geometry: Edge effects	4
5.5 Geometry: Surface curvature	4
5.6 Surface roughness	4
5.7 Cleanliness: Lift-off effect	5
5.8 Probe pressure	5
5.9 Probe tilt	5
5.10 Temperature effects	5
5.11 Intermediate coatings	6
5.12 External electromagnetic fields	6
6 Calibration and adjustment of the instrument	6
6.1 General	6
6.2 Thickness reference standards	6
6.3 Methods of adjustment	7
7 Measurement procedure and evaluation	8
7.1 General	8
7.2 Number of measurements and evaluation	8
8 Uncertainty of the results	8
8.1 General remarks	8
8.2 Uncertainty of the calibration of the instrument	9
8.3 Stochastic errors	10
8.4 Uncertainties caused by factors summarized in Clause 5	10
8.5 Combined uncertainty, expanded uncertainty and final result	11
9 Precision	11
9.1 General	11
9.2 Repeatability (r)	11
9.3 Reproducibility limit (R)	12
10 Test report	12
Annex A (informative) Eddy-current generation in a metallic conductor	14
Annex B (informative) Basics of the determination of the uncertainty of a measurement of the used measurement method corresponding to ISO/IEC Guide 98-3	18
Annex C (informative) Basic performance requirements for coating thickness gauges which are based on the amplitude-sensitive eddy-current method described in this document	20
Annex D (informative) Examples for the experimental estimation of factors affecting the measurement accuracy	22
Annex E (informative) Table of the student factor	27
Annex F (informative) Example of uncertainty estimation (see Clause 8)	28
Annex G (informative) Details on precision	30
Bibliography	34

ISO 2360:2017(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.

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 voluntary nature of standards, 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.

This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*.

This fourth edition cancels and replaces the third edition (ISO 2360:2003), which has been technically revised.

Non-conductive coatings on non-magnetic electrically conductive base metals — Measurement of coating thickness — Amplitude-sensitive eddy-current method

1 Scope

This document specifies a method for non-destructive measurements of the thickness of non-conductive coatings on non-magnetic electrically conductive base metals, using amplitude-sensitive eddy-current instruments.

In this document, the term “coating” is used for materials such as, for example, paints and varnishes, electroplated coatings, enamel coatings, plastic coatings, claddings and powder coatings. This method is particularly applicable to measurements of the thickness of most oxide coatings produced by anodizing, but is not applicable to all conversion coatings, some of which are too thin to be measured by this method (see [Clause 6](#)).

This method can also be used to measure non-magnetic metallic coatings on non-conductive base materials. However, the phase-sensitive eddy-current method specified in ISO 21968 is particularly usable to this application and can provide thickness results with a higher accuracy (see [Annex A](#)).

This method is not applicable to measure non-magnetic metallic coatings on conductive base metals. The phase-sensitive eddy-current method specified in ISO 21968 is particularly useful for this application. However, in the special case of very thin coatings with a very small conductivity, the amplitude-sensitive eddy-current method can also be used for this application (see [Annex A](#)).

Although the method can be used for measurements of the thickness of coatings on magnetic base metals, its use for this application is not recommended. In such cases, the magnetic method specified in ISO 2178 can be used. Only in case of very thick coatings above approximately 1 mm, the amplitude-sensitive eddy-current method can also be used for this application (see [Annex A](#)).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2064, *Metallic and other inorganic coatings — Definitions and conventions concerning the measurement of thickness*

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2064 and ISO 4618 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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