
**Non-conductive coatings on
non-magnetic electrically conductive
basis materials — 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 Principle.....	1
3 Apparatus.....	1
4 Sampling.....	1
5 Factors affecting measurement uncertainty	2
5.1 Coating thickness.....	2
5.2 Electrical properties of the basis materials.....	2
5.3 Basis metal thickness.....	2
5.4 Edge effects.....	2
5.5 Surface curvature.....	2
5.6 Surface roughness.....	3
5.7 Lift-off effect	3
5.8 Probe pressure	3
5.9 Probe tilt.....	3
5.10 Temperature effects	3
5.11 Intermediate coatings	3
6 Procedure.....	4
6.1 Calibration of instruments	4
6.2 Determination	5
7 Expression of results.....	5
8 Measurement uncertainty.....	6
9 Test report.....	6
Annex A (informative) Eddy current generation in a metallic conductor	7
Annex B (normative) Test for edge effect	10
Bibliography	11

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.

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This third edition cancels and replaces the second edition (ISO 2360:1982), which has been technically revised.

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

1 Scope

This International Standard describes a method for non-destructive measurements of the thickness of non-conductive coatings on non-magnetic, electrically conductive (generally metallic) basis materials, using amplitude-sensitive eddy current instruments.

NOTE This method can also be used to measure non-magnetic metallic coatings on non-conductive basis materials.

The 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).

Although theoretically, the method can be used for measurements of the thickness of coatings on magnetic basis materials, its use for this application is not recommended. In such cases, the magnetic method specified in ISO 2178 should be used.

2 Principle

An eddy current probe (or integrated probe/instrument) is placed on the surface of the coating(s) to be measured, and the thickness is read from the instrument's readout.

3 Apparatus

3.1 Probe, containing an eddy current generator and detector linked to a system capable of measuring and displaying the changes in amplitude, normally as a direct readout of coating thickness. The system may also be able to measure phase changes.

NOTE 1 The probe and measuring system/display may be integrated into a single instrument.

NOTE 2 Factors affecting measurement accuracy are discussed in Clause 5.

4 Sampling

Sampling depends on the specific application and coating to be tested. The area, location and number of test specimens shall be agreed between interested parties and shall be included in the test report (see Clause 9).