INTERNATIONAL STANDARD

ISO 2178

Third edition
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Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method

Revêtement métalliques non magnétiques sur métal de base magnétique — Mesurage de l'epaisseur du revêtement — Méthode maguétique

Reference number
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Foreword

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 107, *Metallic and other inorganic coatings.*

This third edition cancels and replaces the second edition (ISO 2178:1982), which has been technically revised.

Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method

1 Scope

This International Standard specifies a method for non-destructive measurements of the thickness of non-magnetizable coatings on magnetizable base metals.

The measurements are tactile and non-destructive on typical coatings. The probe or an instrument with integrated probe is placed directly on the coating to be measured. The coating thickness is displayed on the instrument.

In this International Standard the term "coating" is used for material such as, for example, paints and varnishes, electroplated coatings, enamel coatings, plastic coatings, powder coatings, claddings.

NOTE This method can also be applied to the measurement of magnetizable coatings on non-magnetizable base metals or other materials (see ISO 2361).

2 Normative references

The following documents, in whole or in part, are normatively referenced in 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 5725-1:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles 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.

3.1
adjustment of a measuring system
set of operations carried out on a measuring system so that it provides prescribed indications corresponding to given values of a quantity to be measured

Note 1 to entry: Adjustment of a measuring system can include zero adjustment, offset adjustment, and span adjustment (sometimes called gain adjustment).

Note 2 to entry: Adjustment of a measuring system should not be confused with calibration, which is a prerequisite for adjustment.

Note 3 to entry: After an adjustment of a measuring system, the measuring system shall usually be recalibrated.

Note 4 to entry: Colloquially the term "calibration" is frequently but falsely used instead of the term "adjustment". In the same way, the terms "verification" and "checking" are often used instead of the correct term "calibration".