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Paints and varnishes - Guidelines for the determination of anticorrosive properties of organic coatings by accelerated cyclic electrochemical technique (ISO 17463:2014)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/14

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English Version

Paints and varnishes - Guidelines for the determination of anticorrosive properties of organic coatings by accelerated cyclic electrochemical technique (ISO 17463:2014)

Peintures et vernis - Lignes directrices pour la détermination des propriétés anticorrosives de revêtements organiques par une technique électrochimique cyclique accélérée (ISO 17463:2014)

Beschichtungsstoffe - Richtlinie zur Bestimmung der antikorrosiven Eigenschaften organischer Beschichtungen durch beschleunigte zyklische elektrochemische Verfahren (ISO 17463:2014)

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Foreword

This document (EN ISO 17463:2014) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

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Endorsement notice

The text of ISO 17463:2014 has been approved by CEN as EN ISO 17463:2014 without any modification.

**Paints and varnishes — Guidelines
for the determination of anticorrosive
properties of organic coatings by
accelerated cyclic electrochemical
technique**

*Peintures et vernis — Lignes directrices pour la détermination
des propriétés anticorrosives de revêtements organiques par une
technique électrochimique cyclique accélérée*





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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.

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 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 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

Introduction

This International Standard describes the determination of the anticorrosive properties of organic coatings by means of the accelerated cyclic electrochemical technique (ACET). The method is based on the so called AC/DC/AC procedure. This technique allows comparing the protective and anticorrosive properties of different coating systems on metal in short times and in a qualitative and quantitative way. ACET consists of the application of cycles of EIS (electrochemical impedance spectroscopy) measurements, cathodic polarizations and potential relaxation. Degradation of the coating system is accelerated by the cathodic polarization. EIS and potential relaxation monitor the change of the coating system induced by the cathodic polarization. The technique evaluates the permeability of the coating and properties which can be attributed to adhesion to the substrate.

Paints and varnishes — Guidelines for the determination of anticorrosive properties of organic coatings by accelerated cyclic electrochemical technique

1 Scope

This International Standard gives guidelines on how to perform accelerated cyclic electrochemical technique (ACET) with organic protective coatings on metals.

This International Standard specifies:

- the instrumental assembly;
- the execution of an ACET test and the considerations relative to the samples and electrochemical cell, test parameters and procedure.

This International Standard also provides guidelines for the presentation of experimental results and other type of information obtained.

Some typical examples are shown in an informative annex.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 16773-1, *Electrochemical impedance spectroscopy (EIS) on coated and uncoated metallic specimens — Part 1: Terms and definitions*

ISO 16773-2:—¹⁾, *Electrochemical impedance spectroscopy (EIS) on coated and uncoated metallic specimens — Part 2: Collection of data*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

1) To be published. Revision of ISO 16773-2:2007.