Corrosion of metals and alloys - Classification of low corrosivity of indoor atmospheres - Part 2: Determination of corrosion attack in indoor atmospheres (ISO 11844-2:2020)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11844-2:2020 sisaldab Euroopa standardi EN ISO 11844-2:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11844-2:2020 consists of the English text of the European standard EN ISO 11844-2:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.06.2020.	Date of Availability of the European standard is 10.06.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EN ISO 11844-2

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English Version

Corrosion of metals and alloys - Classification of low corrosivity of indoor atmospheres - Part 2: Determination of corrosion attack in indoor atmospheres (ISO 11844-2:2020)

Corrosion des métaux et alliages - Classification de la corrosivité faible des atmosphères d'intérieur - Partie 2: Détermination de l'attaque par corrosion dans les atmosphères d'intérieur (ISO 11844-2:2020)

Korrosion von Metallen und Legierungen - Einteilung der Korrosivität in Räumen mit geringer Korrosivität - Teil 2: Bestimmung der korrosiven Belastung in Räumen (ISO 11844-2:2020)

This European Standard was approved by CEN on 26 April 2020.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN ISO 11844-2:2020) has been prepared by Technical Committee ISO/TC 156 "Corrosion of metals and alloys" 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 December 2020, and conflicting national standards shall be withdrawn at the latest by December 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 11844-2:2020 has been approved by CEN as EN ISO 11844-2:2020 without any modification.

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

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 11844-2:2005), which has been technically revised. The main changes compared with the previous edition are as follows:

— lead has been included as a standard specimen with high sensitivity to vapour organic acids;

— Annex D has been added.

A list of all parts in the ISO 11844 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document describes standard specimens, exposure and evaluation for the derivation of indoor corrosivity categories.

The determination of the corrosion attack is, at the present state of knowledge, the most reliable and, usually, also an economical way for evaluating corrosivity, taking into account all the main local environmental influences.

Corrosion of metals and alloys — Classification of low corrosivity of indoor atmospheres —

Part 2: Determination of corrosion attack in indoor atmospheres

1 Scope

This document specifies methods for determining corrosion rates with standard specimens of metals in indoor atmospheres with low corrosivity. For this direct method of evaluation corrosivity, different sensitive methods can be applied using standard specimens of the following metals: copper, silver, zinc, steel and lead. The values obtained from the measurements are used as classification criteria for the determination of indoor atmospheric corrosivity.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The corrosivity of the indoor location (e.g. control rooms, electric boxes, storage rooms, during transportation, in museums) is determined from the corrosion rate calculated from the mass change or resistance change per unit area of standard specimens of metals after exposure for a certain time period. Different materials are sensitive to different environmental parameters or their combinations.

5 Methods

The following methods, described in Annexes A and B, are available for the evaluation of the corrosion attack:

— determination of corrosion rate by mass change measurements (see Annex A);

— determination of corrosion rate by electrolytic cathodic reduction (see Annex B).

The methods described in Annexes C and D are suitable for continuous or periodic monitoring of the corrosion attack:

— determination of corrosion rate by resistance measurements (see Annex C);

— determination of corrosion rate by quartz crystal micro-balance methodology (see Annex D).