Corrosion of metals and alloys - Corrosivity of atmospheres - Measurement of environmental parameters affecting corrosivity of atmospheres (ISO 9225:2012)

This document is a preview generated by EVS

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA	NATIONAL FOREWORD
See Eesti standard EVS-EN ISO 9225:2012 sisaldab Euroopa standardi EN ISO 9225:2012 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 9225:2012 consists of the English text of the European standard EN ISO 9225:2012.
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 01.02.2012.	Date of Availability of the European standard is 01.02.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

This document is a preview generated by EVS

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

ICS 77.060

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 9225

February 2012

ICS 77.060

Supersedes EN 12500:2000

English Version

Corrosion of metals and alloys - Corrosivity of atmospheres - Measurement of environmental parameters affecting corrosivity of atmospheres (ISO 9225:2012)

Corrosion des métaux et alliages - Corrosivité des atmosphères - Mesurage des paramètres environnementaux affectant la corrosivité des atmosphères (ISO 9225:2012)

Korrosion von Metallen und Legierungen - Korrosivität von Atmosphären - Messung der die Korrosivität von Atmosphären beeinflussenden Umweltparameter (ISO 9225:2012)

This European Standard was approved by CEN on 22 January 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2012 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN ISO 9225:2012: E

This document is a preview generated by EVS

Foreword

This document (EN ISO 9225:2012) 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” 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 August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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

This document supersedes EN 12500:2000.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 9225:2012 has been approved by CEN as a EN ISO 9225:2012 without any modification.

This document is a preview generated by EVS

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Principle **1**

4 Humidity and temperature parameters **2**
4.1 Relative humidity **2**
4.2 Temperature **2**

5 Airborne contaminants **2**
5.1 Principle **2**
5.2 Placement of measurement equipment **3**
5.3 Measurement methods and duration **3**

Annex A (normative) **Determination of sulfur dioxide deposition rate on lead dioxide sulfation plates** **6**

Annex B (normative) **Determination of sulfur dioxide deposition rate on lead dioxide sulfation cylinder** **9**

Annex C (normative) **Determination of sulfur dioxide deposition rate on alkaline surfaces** **12**

Annex D (normative) **Determination of chloride deposition rate by the wet candle method** **14**

Annex E (normative) **Determination of chloride deposition rate by dry plate method** **18**

Annex F (normative) **Comparison of chlorides and sulfur dioxide deposition rates determined by different methods** **21**

Bibliography **22**

This document is a preview generated by EVS

© ISO 2012 – All rights reserved

Introduction

The ability of an atmosphere to cause corrosion of metals and alloys is controlled by the following factors: the temperature-humidity complex and pollution. A basic requirement for the estimation of the corrosivity of atmospheres is standardized measurement of the important parameters describing the correlation between the corrosion and the environmental characteristics.

The methods included in this International Standard have been chosen for their easy applicability and good comparability of results. It is important to stress that the methods for estimation of the atmospheric corrosivity given in ISO 9223 are based on the measurement methods described in this International Standard.

This document is a preview generated by EVS

© ISO 2012 – All rights reserved

Corrosion of metals and alloys — Corrosivity of atmospheres — Measurement of environmental parameters affecting corrosivity of atmospheres

WARNING — Some of the procedures included in this International Standard entail the use of potentially hazardous chemicals. It is emphasized that all appropriate safety precautions should be taken.

1 Scope

This International Standard specifies methods for measuring the parameters needed for corrosivity estimation used for classification of the corrosivity of atmospheres in ISO 9223.

This International Standard specifies methods for the measurement of environmental parameters for

— normative corrosivity estimation based on calculated first-year corrosion rates of standard metals, and

— informative corrosivity estimation based on characterization of the exposure environment.

This International Standard does not describe the usual analytical techniques for the measured parameters since this depends on the available analytical techniques used in laboratories. Specific methods for deposition measurement of SO_2 and Cl^- deposition rates and conversional factors for comparison of different measuring methods are presented in Annexes A, B, C, D, E and F.

For methods pertaining to the characterization of the atmospheric exposure site in general, see ISO 8565.

2 Normative references

The following referenced documents are indispensable for the application 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 9223, *Corrosion of metals and alloys — Corrosivity of atmospheres — Classification, determination and estimation*

ISO 11844-3, *Corrosion of metals and alloys — Classification of low corrosivity of indoor atmospheres — Part 3: Measurement of environmental parameters affecting indoor corrosivity*

3 Principle

Different environmental parameters and their combinations affect the corrosivity of the atmosphere. Two methods for corrosivity estimation (normative and informative) are specified in ISO 9223.

In general, two groups of parameters are obtained or measured for standardized procedures of corrosivity estimation:

— humidity and temperature;

— airborne contaminants.

This document is a preview generated by EVS

© ISO 2012 – All rights reserved