Irish Standard
I.S. EN ISO 9225:2012

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

I.S. EN ISO 9225:2012

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EUROPEAN STANDARD

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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.

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

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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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.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.

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Endorsement notice

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

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I.S. EN ISO 9225:2012

INTERNATIONAL STANDARD

ISO 9225

Second edition
2012-02-01

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

Corrosion des métaux et alliages — Corrosivité des atmosphères — Mesurage des paramètres environnementaux affectant la corrosivité des atmosphères

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 9225 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

This second edition cancels and replaces the first edition (ISO 9225:1992), which has been technically revised.

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.

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.