

Corrosion of metals and alloys - Corrosivity of atmospheres - Determination of corrosion rate of standard specimens for the evaluation of corrosivity (ISO 9226:2012)

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English Version

Corrosion of metals and alloys - Corrosivity of atmospheres - Determination of corrosion rate of standard specimens for the evaluation of corrosivity (ISO 9226:2012)

Corrosion des métaux et alliages - Corrosivité des
atmosphères - Détermination de la vitesse de corrosion
d'éprouvettes de référence pour l'évaluation de la
corrosivité (ISO 9226:2012)

Korrosion von Metallen und Legierungen - Korrosivität von
Atmosphären - Bestimmung der Korrosionsgeschwindigkeit
von Standardproben zur Ermittlung der Korrosivität (ISO
9226:2012)

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

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

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Foreword

This document (EN ISO 9226:2012) 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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.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.

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Endorsement notice

The text of ISO 9226:2012 has been approved by CEN as a EN ISO 9226:2012 without any modification.

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Introduction

The characterization of an atmospheric corrosion test site or of a service location with respect to its corrosivity can be accomplished by determining the corrosion rate of standard specimens exposed for one year to the atmosphere at the respective location (corrosivity determination). The standard specimens are flat plate specimens of the four standard structural materials: aluminium, copper, steel and zinc. This method represents an economical way of evaluating corrosivity, taking into account all local environmental influences.

Corrosion of metals and alloys — Corrosivity of atmospheres — Determination of corrosion rate of standard specimens for the evaluation of corrosivity

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 which can be used for the determination of corrosion rate with standard specimens. The values obtained from the measurements (corrosion rates for the first year of exposure) are intended to be used as classification criteria for the evaluation of atmospheric corrosivity according to ISO 9223. They can also be used for informative evaluation of atmospheric corrosivity beyond the scope of ISO 9223.

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 8407, *Corrosion of metals and alloys — Removal of corrosion products from corrosion test specimens*

ISO 8565, *Metals and alloys — Atmospheric corrosion testing — General requirements*

ISO 9223, *Corrosion of metals and alloys — Corrosivity of atmospheres — Classification, determination and estimation*

ISO 9224, *Corrosion of metals and alloys — Corrosivity of atmospheres — Guiding values for the corrosivity categories*

3 Principle

The corrosivity of the exposure locations or of industrial installation sites is deduced from the corrosion rate, calculated from the loss of mass per unit area of standard specimens following the removal of corrosion products from the specimens after exposure periods of one year.

In the case of alloys of iron, zinc and copper, mass loss is a proven measure of corrosion damage. In the case of aluminium alloys, mass loss is a valid measure of corrosion. This International Standard describes only evaluation by mass loss and not corrosion penetration.

Corrosion rates for the first year of exposure may be used for the calculation of corrosion rates for long-term exposures in accordance with ISO 9224.