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Corrosion of metals and alloys — Corrosivity of atmospheres — Guiding values for the corrosivity categories

*Corrosion des métaux et alliages — Corrosivité des atmosphères —
Valeurs de référence relatives aux classes de corrosivité*



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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 9224 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

This second edition cancels and replaces the first edition (ISO 9224:1992), which has been technically revised.

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Introduction

The “corrosivity category” established in ISO 9223 is a general term suitable for engineering purposes, which describes the corrosion properties of atmospheres based on current knowledge of atmospheric corrosion.

Guiding values of corrosion attack can be used to predict the extent of corrosion attack in long-term exposures based on measurements of corrosion attack in the first-year exposure to the outdoor atmosphere in question. These values can also be used to determine conservative estimates of corrosion attack based on environmental information or corrosivity category estimates as shown in ISO 9223.

Corrosion attack estimates obtained by using the methods in this International Standard can be used to predict the useful life of metallic components and, in some cases, of metallic coatings exposed to outdoor atmospheres covered by ISO 9223. The corrosion attack results can also be used to determine whether or not protective measures, such as coatings, are required to achieve desired product lives. Other uses include the selection of construction materials for outdoor atmospheric service.

Guiding values of corrosion can be used as information for the selection of a protection method against atmospheric corrosion according to ISO 11303.

The guiding values in this International Standard are based on a large number of exposures in many locations throughout the world. However, the procedure used in this International Standard cannot possibly cover all the situations in natural environments and service conditions which can occur. In particular, situations that result in significant changes in the environment can cause major increases or decreases in corrosion rates. Users of this International Standard are cautioned to consult with qualified experts in the field of outdoor atmospheric corrosion in cases where localized corrosion can be more important than general attack. The specific issues of galvanic (bi-metallic) corrosion, pitting corrosion, crevice corrosion, environmental cracking and corrosion product wedging are not addressed in this International Standard.