

## საქართველოს სტანდარტი

სსკ: 77.060

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## Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227:2022)

Essais de corrosion en atmosphères artificielles -  
Essais aux brouillards salins (ISO/FDIS 9227:2022)

Korrosionsprüfungen in künstlichen Atmosphären -  
Salzsprühnebelprüfungen (ISO/FDIS 9227:2022)

This European Standard was approved by CEN on 12 November 2022.

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## European foreword

This document (EN ISO 9227:2022) 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

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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## Endorsement notice

The text of ISO 9227:2022 has been approved by CEN as EN ISO 9227:2022 without any modification.

# INTERNATIONAL STANDARD

# ISO 9227

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## Corrosion tests in artificial atmospheres — Salt spray tests

*Essais de corrosion en atmosphères artificielles — Essais aux  
brouillards salins*

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.



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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](http://www.iso.org/directives)).

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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 fifth edition cancels and replaces the fourth edition (ISO 9227:2017), which has been technically revised.

The main changes are as follows:

- the arrangement of test specimens has been added;
- the arrangement of collecting devices has been changed; examples of arrangement of collecting devices have been added as [Annex E](#);
- DC04, DC05 and UNS G10080 have been added for steel reference specimens as an alternative of CR4-grade steel, and interlaboratory comparison for reference specimens has been added as [Annex E](#);
- the diluted acetic acid for preparing the test solution of AASS and CASS has been added;
- the allowed limit of copper concentration when the cabinet once used for CASS is re-used for NSS or AASS has been specified.

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](http://www.iso.org/members.html).

## Introduction

There is seldom a direct relation between resistance to the action of salt spray and resistance to corrosion in other media, because several factors influencing the progress of corrosion, such as the formation of protective films, vary greatly with the conditions encountered. Therefore, the test results should not be regarded as a direct guide to the corrosion resistance of the tested metallic materials in all environments where these materials can be used. Also, the performance of different materials during the test should not be taken as a direct guide to the corrosion resistance of these materials in service.

Nevertheless, the method described gives a means of checking that the comparative quality of a metallic material, with or without corrosion protection, is maintained.

Different metallic substrates (metals) cannot be tested in direct comparison in accordance to their corrosion resistances in salt spray tests. Comparative testing is only applicable for the same kind of substrate.

Salt spray tests are generally suitable as corrosion protection tests for rapid analysis for discontinuities, pores and damage in organic and inorganic coatings. In addition, for quality control purposes, comparison can be made between specimens coated with the same coating. As comparative tests, however, salt spray tests are only suitable if the coatings are sufficiently similar in nature.

When interpreting test results (e.g. minimum time until appearance defects or protection defects) for product quality control or acceptance specifications, it is important to recognize that the salt spray test can have a low level of reproducibility, especially with production parts tested in different laboratories.

It is often not possible to use results gained from salt spray testing as a comparative guide to the long-term behaviour of different coating systems, since the corrosion stress during these tests differs significantly from the corrosion stresses encountered in practice.

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