ICS 77.060 SLOVENSKÁ TECHNICKÁ NORMA August 2025

STN	**Korózne skúšky v umelých atmosférach Zrýchlené korózne skúšky alternatívnym vystavovaním koróznym plynom, neutrálnej soľnej hmle a sušeniu (ISO 21207: 2025)**	**STN EN ISO 21207** 03 8117

Corrosion tests in artificial atmospheres - Accelerated corrosion tests involving alternate exposure to corrosion-promoting gases, neutral salt-spray and drying (ISO 21207:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/25

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Oznámením tejto normy sa ruší
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NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 21207

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ICS 77.060 Supersedes EN ISO 21207:2022

English Version

Corrosion tests in artificial atmospheres - Accelerated corrosion tests involving alternate exposure to corrosion-promoting gases, neutral salt-spray and drying (ISO 21207:2025)

Essais de corrosion en atmosphères artificielles - Essais de corrosion accélérée par expositions alternées à des gaz favorisant la corrosion ou au brouillard salin neutre et à un séchage (ISO 21207:2025)

Korrosionsprüfungen in künstlichen Atmosphären - Beschleunigte Korrosionstests mit alternativer Einwirkung von korrosionsfördernden Gasen, neutraler Salzsprühung und Trocknung (ISO 21207:2025)

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COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 21207:2025) 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of an identical text or by endorsement, at the latest by November 2025, and conflicting national standards shall be withdrawn at the latest by November 2025.

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Endorsement notice

The text of ISO 21207:2025 has been approved by CEN as EN ISO 21207:2025 without any modification.

International Standard

ISO 21207

Corrosion tests in artificial atmospheres — Accelerated corrosion tests involving alternate exposure to corrosion-promoting gases, neutral salt-spray and drying

Essais de corrosion en atmosphères artificielles — Essais de corrosion accélérée par expositions alternées à des gaz favorisant la corrosion ou au brouillard salin neutre et à un séchage

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Foreword

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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 third edition cancels and replaces the second edition (ISO 21207:2015), which has been technically revised.

The main changes are as follows:

— Clause 3 “Terms and definitions” added and numbering of the following clauses adjusted.

— Bibliography updated.

— Table A.2 has been withdrawn.

— Annex B has been added, which includes an interlaboratory comparison comprising three laboratories.

— The dispersion limits of Cu mass loss have been increased to approximately 30 % in Table 1.

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Introduction

The corrosion of metallic materials with or without corrosion protection is influenced by many environmental factors. The extent of this influence depends on the type of metallic material and on the type of environment. Laboratory tests are designed to simulate the effects of the most significant factors that enhance the corrosion of metallic materials. They are not intended to be used for comparative testing as a means of ranking different materials relative to each other with respect to corrosion resistance or as means of predicting long-term corrosion resistance of the tested material (merely for testing the whole product).

There are two accelerated corrosion test methods described in this document, methods A and B. These methods are designed to simulate and enhance an outdoor climate that can promote corrosion such as an industrial or traffic environment with salt-contaminated conditions and corrosion-promoting gases. Test method A simulates a moderately aggressive traffic environment. Test method B simulates a more severe industrial or traffic environment.

In test method A, the test objects are exposed to the following test cycle:

— neutral salt spray testing in accordance with ISO 9227 for 2 h in a mist of a sodium chloride salt solution of mass fraction 5 % at 35 °C, followed by drying for 22 h in a standard atmosphere;

— exposure for 120 h in a test atmosphere containing a mixture of corrosion-promoting gases, a volume fraction of nitrogen dioxide (NO_2) equal to $1{,}5 \times 10^{-6}$ and of sulphur dioxide (SO_2) equal to $0{,}5 \times 10^{-6}$, at a relative humidity (RH) of 95 % and at a temperature of 25 °C, followed by drying for 24 h in a standard atmosphere.

In test method B, the test objects are exposed to the following test cycle:

a) neutral salt spray testing in accordance with ISO 9227 for 2 h in a mist of a sodium chloride salt solution of mass fraction 5 % at 35 °C, followed by drying for 22 h in a standard atmosphere;

b) exposure for 48 h in a test atmosphere containing a mixture of corrosion-promoting gases, a volume fraction of NO_2 equal to 10×10^{-6} and of SO_2 equal to 5×10^{-6}, at a RH of 95 % and at a temperature of 25 °C;

c) neutral salt spray testing in accordance with ISO 9227 for 2 h in a mist of a sodium chloride salt solution of mass fraction 5 % at 35 °C, followed by drying for 22 h in a standard atmosphere;

d) exposure for 72 h in a test atmosphere containing a mixture of corrosion-promoting gases, a volume fraction of NO_2 equal to 10×10^{-6} and of SO_2 equal to 5×10^{-6}, at a RH of 95 % and at a temperature of 25 °C.

These methods (A and B) are not intended to be used for comparative testing or as ranking different materials to each other with respect to corrosion resistance.

These methods are especially suitable for checking and maintaining the quality of sensitive products with metals, e.g. electronic components used in traffic and industrial environments with or without corrosion protection.

The results obtained do not permit far-reaching conclusions on the corrosion resistance of the tested product under the whole range of environmental conditions in which it is used.

International Standard **ISO 21207:2025(en)**

Corrosion tests in artificial atmospheres — Accelerated corrosion tests involving alternate exposure to corrosion-promoting gases, neutral salt-spray and drying

1 Scope

This document specifies two accelerated corrosion test methods. These methods assess the corrosion resistance of products containing copper in environments where there is a significant influence of chloride ions, mainly as sodium chloride from a marine source or winter road de-icing salt, as well as the influence of corrosion-promoting gases from industrial or traffic air pollution.

This document specifies both the test apparatus and test procedures to be used in executing the accelerated corrosion tests.

The methods are especially suitable for assessing the corrosion resistance of sensitive products with metals, e.g. electronic components, used in traffic and industrial environments.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 291, *Plastics — Standard atmospheres for conditioning and testing*

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

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 10062, *Corrosion tests in artificial atmosphere at very low concentrations of polluting gas(es)*