

STN	Skúšky korózie v umelých atmosférach pri veľmi nízkych koncentráciách znečisťujúceho plynu (znečisťujúcich plynov) (ISO 10062: 2022)	STN EN ISO 10062 03 8114
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Corrosion tests in artificial atmosphere at very low concentrations of polluting gas(es) (ISO 10062:2022)

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. 02/23

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EN ISO 10062

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English Version

Corrosion tests in artificial atmosphere at very low concentrations of polluting gas(es) (ISO 10062:2022)

Essais de corrosion en atmosphère artificielle à très faible concentration en gaz polluants (ISO 10062:2022)

Korrosionsprüfungen in künstlicher Atmosphäre mit sehr niedrigen Konzentrationen von Schadgas(en) (ISO 10062:2022)

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EN ISO 10062:2022 (E)

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European foreword

This document (EN ISO 10062:2022) 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.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.

This document supersedes EN ISO 10062:2008.

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Endorsement notice

The text of ISO 10062:2022 has been approved by CEN as EN ISO 10062:2022 without any modification.

INTERNATIONAL STANDARD

ISO 10062

Third edition
2022-11

Corrosion tests in artificial atmosphere at very low concentrations of polluting gas(es)

*Essais de corrosion en atmosphère artificielle à très faible
concentration en gaz polluants*



Reference number
ISO 10062:2022(E)

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ISO 10062:2022(E)

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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 10062:2006), which has been technically revised.

The main changes compared to the previous edition are as follows:

- simplified method has been deleted due to safety issues for operator;
- warnings about each gas have been added in [5.1.2](#);
- [Annex A](#) has been changed to normative annex;
- the installation environment has been added to [Annex A](#).

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.

Introduction

Products with, for example, sensitive electrical functions, can, during storage or operation in indoor locations, be affected by atmospheric corrosion dependent on climatic factors such as temperature, relative humidity, air velocity and rate of change caused by temperature and humidity. Additionally, gaseous pollutants can seriously affect the rate of corrosion, as well as the occurrence of different corrosion mechanisms. Contaminants on the surface, such as salt, dust, oil and compounds liberated from plastics, can also affect the rate and mechanism of corrosion.

Different corrosion-promoting gaseous pollutants dominate in different field environments:

- sulfur dioxide and nitrogen oxides in atmospheres influenced by combustion of fossil fuels and in traffic environments,
- hydrogen sulfide in atmospheres in the vicinity of petrochemical and steel industry, decaying organic matter, stagnant waters and animal shelters, and
- hydrogen sulfide and chlorine compounds in the vicinity of pulp and paper industry; if chlorine is used for bleaching.

Those gaseous pollutants are known to act as single corrosion-promoting factors. However, in atmospheres where more than one gaseous pollutant is present, synergistic effects can be initiated. As a result, a considerable increase in the corrosion rate can occur, compared to the case when the different gaseous pollutants act as single corrosion-promoting factors.

This document is intended to

- a) specify a general method using atmospheres polluted by one or more gases at very low volume fractions $\leq 10^{-6}$ under specified conditions of temperature and relative humidity, so as to avoid condensation phenomena during the test,
- b) specify the test apparatus and procedure required to achieve the best possible reproducibility, and
- c) assess performance under test conditions which accelerate corrosion; as knowledge of operating conditions proceeds, more suitable pollutants or pollutant mixtures can be used.

This document is 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 a means of predicting long-term corrosion resistance of the tested material.

Corrosion tests in artificial atmosphere at very low concentrations of polluting gas(es)

1 Scope

This document specifies tests which are intended to determine the influence of one or more flowing polluting gas(es) at volume fractions less than or equal to 10^{-6} on test samples and/or articles of metals and alloys with or without corrosion protection under determined conditions of temperature and relative humidity.

This document is applicable to

- a) metals and their alloys,
- b) metallic coatings (anodic and cathodic),
- c) metals with conversion coatings,
- d) metals with anodic oxide coatings, and
- e) metals with organic coatings.

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 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 558, *Conditioning and testing — Standard atmospheres — Definitions*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN