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# Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method) (ISO 22479:2019)

## EESTI STANDARDI EESSÕNA

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| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.06.2022. | Date of Availability of the European standard is 22.06.2022. |
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ICS 77.060

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# EN ISO 22479

June 2022

ICS 77.060

Supersedes EN ISO 3231:1997, EN ISO 6988:1994

English Version

# Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method) (ISO 22479:2019)

Corrosion des métaux et alliages - Essai au dioxyde de soufre en atmosphère humide (méthode avec volume fixe de gaz) (ISO 22479:2019)

Korrosion von Metallen und Legierungen - Prüfung mit Schwefeldioxid in feuchter Atmosphäre (fixed gas method) (ISO 22479:2019)

This European Standard was approved by CEN on 20 June 2022.

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Ref. No. EN ISO 22479:2022 E

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## European foreword

The text of ISO 22479:2019 has been prepared by Technical Committee ISO/TC 156 "Corrosion of metals and alloys" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22479:2022 by 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of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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 3231:1997 and EN ISO 6988:1994.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 22479:2019 has been approved by CEN as EN ISO 22479:2022 without any modification.

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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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*.

This first edition of ISO 22479 cancels and replaces ISO 3231:1993 and ISO 6988:1985, which have been combined and technically revised. The main changes compared with the previous edition are as follows:

— the method of generating sulfur dioxide from reagents has been deleted because of the risk of exposure to toxic chemicals.

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.

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# Introduction

A humid atmosphere containing sulfur dioxide induces corrosion of many metals.

The results obtained in this document should not be regarded as a direct guide to the corrosion resistance of the tested materials in all environments where these materials may be used. Similarly, performances of different materials in this document should not be taken as a direct guide to the relative corrosion resistance of these materials in service.

It is appropriate to test only the same corrosion protection systems at the same time in one test procedure, because an interaction between samples can't be prevented. When testing different corrosion protection systems with different materials, it should be taken into account that the influence of sulfur dioxide often can be different.

The term “fixed gas method” means that at the beginning of the test a fixed volume of gas is introduced into a cabinet of fixed volume.

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# Corrosion of metals and alloys — Sulfur dioxide test in a humid atmosphere (fixed gas method)

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## 1 Scope

This document specifies a method for assessing the resistance of materials or products to a humid atmosphere containing sulfur dioxide.

This method is applicable to testing metals and alloys, metallic and non-organic coatings and 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 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 8044, *Corrosion of metals and alloys — Basic terms and definitions*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8044 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

## 4 Principle

The test specimens are exposed to a humid atmosphere containing sulfur dioxide. The sulfur dioxide dissolved by the moisture condenses on the test specimen surface and causes corrosion.

## 5 Apparatus

### 5.1 Component protection.

All components in contact with sulfur dioxide in a humid atmosphere shall be made of corrosion resistant materials, and shall themselves not emit any gas or vapour likely to influence corrosion of the test specimens.

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