

Indoor air - Part 9: Determination of the emission of volatile organic compounds from samples of building products and furnishing - Emission test chamber method (ISO 16000-9:2024)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 16000-9:2024 sisaldab Euroopa standardi EN ISO 16000-9:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.03.2024.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 16000-9:2024 consists of the English text of the European standard EN ISO 16000-9:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 27.03.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

Indoor air - Part 9: Determination of the emission of
volatile organic compounds from samples of building
products and furnishing - Emission test chamber method
(ISO 16000-9:2024)

Air intérieur - Partie 9: Dosage de l'émission de
composés organiques volatils d'échantillons de
produits de construction et d'objets d'équipement -
Méthode de la chambre d'essai d'émission (ISO 16000-
9:2023)

Innenraumluftverunreinigungen - Teil 9: Bestimmung
der Emission von flüchtigen organischen
Verbindungen aus Bauprodukten und
Einrichtungsgegenständen - Emissionsprüfkammer-
Verfahren (ISO 16000-9:2024)

This European Standard was approved by CEN on 15 March 2024.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 16000-9:2024) has been prepared by Technical Committee ISO/TC 146 "Air quality" in collaboration with Technical Committee CEN/TC 264 "Air quality" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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 16000-9:2006.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. 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, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 16000-9:2024 has been approved by CEN as EN ISO 16000-9:2024 without any modification.

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	3
4.1	Symbols	3
4.2	Abbreviated terms	4
5	Principle	4
6	Emission test chamber system	4
6.1	General	4
6.2	Emission test chamber materials	4
6.3	Air supply and mixing facilities	4
6.4	Air tightness	5
6.5	Air sampling devices	5
6.6	Recovery and sink effects	5
7	Apparatus	5
8	Test conditions	6
8.1	Temperature and relative air humidity	6
8.2	Supply air quality and background concentration	6
8.3	Air velocity	6
8.4	Area specific air flow rate and air change rate	6
9	Verification of the test conditions	7
9.1	General	7
9.2	Temperature and relative air humidity control systems	7
9.3	Air change rate in the emission test chamber	7
9.4	Emission test chamber air tightness	7
9.5	Air velocity in the emission test chamber	7
9.6	Efficiency of the internal emission test chamber air mixing	7
10	Test specimens	8
11	Emission test chamber preparation	8
12	Test method	8
12.1	Background concentrations	8
12.2	Test specimen location in the emission test chamber	8
12.3	Time for measurements of test chamber air concentration	8
13	Calculation of area specific emission rates and expression of results	9
14	Performance characteristics	9
15	Test report	9
Annex A (normative) System for quality assurance and quality control		11
Annex B (informative) Examples of loading factors for a model room		13
Annex C (informative) General description of an emission test chamber		14
Annex D (informative) Determination of the emission rates of seams and cut edges		15
Bibliography		16

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 document 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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This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 6, *Indoor air*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 264, *Air quality*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16000-9:2006), which has been technically revised.

The main change is as follows: detailed information about cut edge has been added.

A list of all parts in the ISO 16000 series can be found on the ISO website.

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

The objectives of the determination of volatile organic compounds (VOCs) emitted from building products using emission test chambers in conjunction with the standardised sampling, storage of samples and preparation of test specimens are:

- to provide manufacturers, builders and end users with emission data useful for the evaluation of the impact of building products on the indoor air quality;
- to promote the development of improved products.

The method can in principle be used for most building products used indoors.

Sampling, transport and storage of materials to be tested, and preparation of test specimens are described in ISO 16000-11. Air sampling and analytical methods for the determination of VOCs are specified in ISO 16000-6 and ISO 16017-1.

A general description of an emission test chamber is given in [Annex C](#).

For the determination of formaldehyde emissions from wood-based panels, refer to EN 717-1^[1]. The measurement procedure for formaldehyde is described in ISO 16000-3^[2].

The determination of the emission rates of cut edges is described in [Annex D](#).

Indoor air —

Part 9: Determination of the emission of volatile organic compounds from samples of building products and furnishing — Emission test chamber method

1 Scope

This document specifies a general laboratory test method for the determination of the area specific emission rate of volatile organic compounds (VOCs) from samples of newly produced building products or furnishing under defined climate conditions. The method can also, in principle, be applied to samples of aged products. The emission data obtained can be used to calculate concentrations in a model room (see [Table B.1](#)).

This document is applicable to various emission test chambers used for the determination of the emission of VOCs from building products or furnishing.

This document is also applicable to samples of wood-based panels and other building products, in order to determine the emission rate of formaldehyde.

NOTE In principle, this document can be applied to the study of any gas phase emissions from samples of building products and furnishing.

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 16000-6, *Indoor air — Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS/FID*

ISO 16000-11, *Indoor air — Part 11: Determination of the emission of volatile organic compounds from building products and furnishing — Sampling, storage of samples and preparation of test specimens*

ISO 16017-1, *Indoor, ambient and workplace air — Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography — Part 1: Pumped sampling*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>