

**HOONETE SOOJUSLIK TOIMIVUS. HOONEPIIRETE
ÕHULEKKE MÄÄRAMINE. VENTILAATORIGA
SURVESTAMISE MEETOD**

**Thermal performance of buildings - Determination of
air permeability of buildings - Fan pressurization
method (ISO 9972:2015)**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN ISO 9972:2015 sisaldab Euroopa standardi EN ISO 9972:2015 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 9972:2015 consists of the English text of the European standard EN ISO 9972:2015.
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English Version

Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method (ISO 9972:2015)

Performance thermique des bâtiments - Détermination de la perméabilité à l'air des bâtiments - Méthode de pressurisation par ventilateur (ISO 9972:2015)

Wärmetechnisches Verhalten von Gebäuden - Bestimmung der Luftdurchlässigkeit von Gebäuden - Differenzdruckverfahren (ISO 9972:2015)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 9972:2015) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with Technical Committee CEN/TC 89 "Thermal performance of buildings and building components" the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 9972:2015 has been approved by CEN as EN ISO 9972:2015 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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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*.

This third edition cancels and replaces the second edition (ISO 9972:2006), which has been technically revised.

Introduction

The fan-pressurization method is intended to characterize the air permeability of the building envelope or parts thereof. It can be used, for example,

- a) to measure the air permeability of a building or part thereof for compliance with a design air-tightness specification,
- b) to compare the relative air permeability of several similar buildings or parts of buildings, and
- c) to determine the air-leakage reduction resulting from individual retrofit measures applied incrementally to an existing building or part of building.

The fan pressurization method does not measure the air infiltration rate of a building. The results of this method can be used to estimate the air infiltration rate and resulted heat load by means of calculation.

Other methods, like tracer gas, are applicable when it is desired to obtain a direct measurement of the air infiltration rate. A single tracer gas measurement, however, gives limited information on the performance of ventilation and infiltration of buildings.

The fan-pressurization method applies to measurements of air flow through the construction from outside to inside or vice versa. It does not apply to air flow measurements from outside through the construction and back to outside.

The proper use of this International Standard requires knowledge of the principles of air flow and pressure measurements. Ideal conditions for the test described in this International Standard are small temperature differences and low wind speeds. For tests conducted in the field, it needs to be recognized that field conditions can be less than ideal. Nevertheless, strong winds and large indoor-outdoor temperature differences are to be avoided.

Thermal performance of buildings — Determination of air permeability of buildings — Fan pressurization method

1 Scope

This International Standard is intended for the measurement of the air permeability of buildings or parts of buildings in the field. It specifies the use of mechanical pressurization or depressurization of a building or part of a building. It describes the measurement of the resulting air flow rates over a range of indoor-outdoor static pressure differences.

This International Standard is intended for the measurement of the air leakage of building envelopes of single-zone buildings. For the purpose of this International Standard, many multi-zone buildings can be treated as single-zone buildings by opening interior doors or by inducing equal pressures in adjacent zones.

International Standard does not address evaluation of air permeability of individual components.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7345, *Thermal insulation — Physical quantities and definitions*

3 Terms, definitions, and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345 and the following apply.

3.1.1

air leakage rate

air flow rate across the building envelope

Note 1 to entry: This movement includes flow through joints, cracks, and porous surfaces, or a combination thereof, induced by the air-moving equipment used in this International Standard (see [Clause 4](#)).

3.1.2

building envelope

boundary or barrier separating the inside of the building or part of the building subject to the test from the outside environment or another building or another part of the building

3.1.3

air change rate

air leakage rate per internal volume across the building envelope

3.1.4

air permeability

air leakage rate per the envelope area across the building envelope