



# SLOVENSKI STANDARD SIST EN ISO 12569:2001

01-september-2001

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Thermal insulation in buildings - Determination of air change in buildings - Tracer gas dilution method (ISO 12569:2000)

Wärmetechnisches Verhalten von Gebäuden - Bestimmung des Luftwechsels in Gebäuden - Indikatorgasverfahren (ISO 12569:2000)

Isolation thermique dans les bâtiments - Détermination du renouvellement d'air dans les bâtiments - Méthode de dilution de gaz traceurs (ISO 12569:2000)

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Ta slovenski standard je istoveten z: EN ISO 12569:2000

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## ICS:

91.120.10      Toplotna izolacija stavb      Thermal insulation

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 12569

November 2000

ICS 09.012.10

English version

Thermal insulation in buildings - Determination of air change in  
buildings - Tracer gas dilution method (ISO 12569:2000)

Isolation thermique dans les bâtiments - Détermination du  
renouvellement d'air dans les bâtiments - Méthode de  
dilution de gaz traceurs (ISO 12569:2000)

Wärmetechnisches Verhalten von Gebäuden - Bestimmung  
des Luftwechsels in Gebäuden - Indikatorgasverfahren  
(ISO 12569:2000)

This European Standard was approved by CEN on 1 November 2000.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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EN ISO 12569:2000

## Foreword

The text of the International Standard ISO 12569:2000 has been prepared by Technical Committee ISO/TC 163 "Thermal insulation" 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 May 2001, and conflicting national standards shall be withdrawn at the latest by May 2001.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 12569:2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA (normative)**  
**Normative references to international publications**  
**with their relevant European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 7345	1987	Thermal insulation - Physical quantities and definitions	EN ISO 7345	1995

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INTERNATIONAL  
STANDARD

ISO  
12569

First edition  
2000-11-01

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**Thermal performance of buildings —  
Determination of air change in buildings —  
Tracer gas dilution method**

*Performances thermiques des bâtiments — Détermination du  
renouvellement d'air dans les bâtiments — Méthode de dilution de gaz  
traceurs*

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Reference number  
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**ISO 12569:2000(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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights other than those identified above. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12569 was prepared by Technical Committee ISO/TC 163, *Thermal insulation*, Subcommittee SC 1, *Test and measurement methods*.

Annexes A to G of this International Standard are for information only.

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## Introduction

Air change often accounts for a significant portion of the heating or air-conditioning load of a building. It also affects the moisture and contaminant levels in the building. Moisture-laden air passing through cracks in the building envelope under the influence of air pressure differences and through structural elements under the influence of vapour pressure differences can condense and cause material degradation. Air flow and air change rates depend on the size and distribution of air leakage sites, pressure differences induced by wind and temperature, mechanical system operation, and occupant behaviour. An appropriate level of ventilation is also required in all buildings for hygiene reasons.

This International Standard presents three test methods that use the measurement of tracer gas concentrations to determine air change in a building or other enclosure that can be characterized as a single zone. The measurement of tracer gas concentration, and sometimes the volume rate of flow at which the tracer gas is injected into the zone, allows calculation of the volume rate of air flow leaving the zone. The volume rate of incoming air flow can be inferred from this. The three test methods presented are:

- a) tracer gas decay (5.4), which tracks the decay rate of tracer gas concentration after an initial injection of tracer gas,
- b) constant injection (5.5), which tracks the tracer gas concentration resulting from a known, constant injection rate of tracer gas, and
- c) constant concentration (5.6), which tracks the amount of tracer gas required to maintain it at a constant concentration at a constant level.

Each test method employs specific tracer gas injection and sampling strategies. Other techniques exist, but are beyond the scope of these test methods.

Because air change depends on such variable conditions as building operation, wind speed, and indoor-outdoor temperatures, this International Standard does not provide information about building airtightness directly. ISO 9972 should be used to measure airtightness.

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