

Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 1: Externally and internally mounted air transfer devices

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13141-1:2019 sisaldab Euroopa standardi EN 13141-1:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 13141-1:2019 consists of the English text of the European standard EN 13141-1:2019.
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EUROPEAN STANDARD

EN 13141-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 13141-1:2004

English Version

**Ventilation for buildings - Performance testing of
components/products for residential ventilation - Part 1:
Externally and internally mounted air transfer devices**

Ventilation des bâtiments - Essais de performance des
composants/produits pour la ventilation des
logements - Partie 1 : Dispositifs de transfert d'air
montés en extérieur et en intérieur

Lüftung von Gebäuden - Leistungsprüfungen von
Bauteilen/Produkten für die Lüftung von Wohnungen -
Teil 1: Außenwand- und Überströmluftdurchlässe

This European Standard was approved by CEN on 26 November 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 13141-1:2019) has been prepared by Technical Committee CEN/TC 156 "Ventilation for buildings", 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of an identical text or by endorsement, at the latest by July 2019, and conflicting national standards shall be withdrawn at the latest by July 2019.

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.

A list of all parts in the EN 13141 series, published under the general title "*Ventilation for buildings — Performance testing of components/products for residential ventilation*" can be found on the CEN website.

This document supersedes EN 13141-1:2004.

In addition to a number of editorial revisions, the following main changes have been made with respect to EN 13141-1:2004:

- terms, definitions, symbols and units have been updated;
- in 5.1.2.1, the test installation has been completed;
- in 5.1.2.2, uncertainty of measurement has been amended and brackets removed;
- in 5.1.3, the test procedure has been updated;
- in 5.1.4, analysis of results has been updated;
- in 5.1.5, a dimensioned drawing of the air transfer device, opening and position on the board in the test is now required in the test report;
- in 5.5.3, one minor update to the zone test heights has been made;
- in Clause 6, performance of testing sound insulation requirement to conduct test in the board configuration as indicated in 5.1.2.1 has been added;
- Annex B (informative) showing typical examples has been added.

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

Introduction

The position of this document in the field of standards for the mechanical building services is shown in Figure 1.

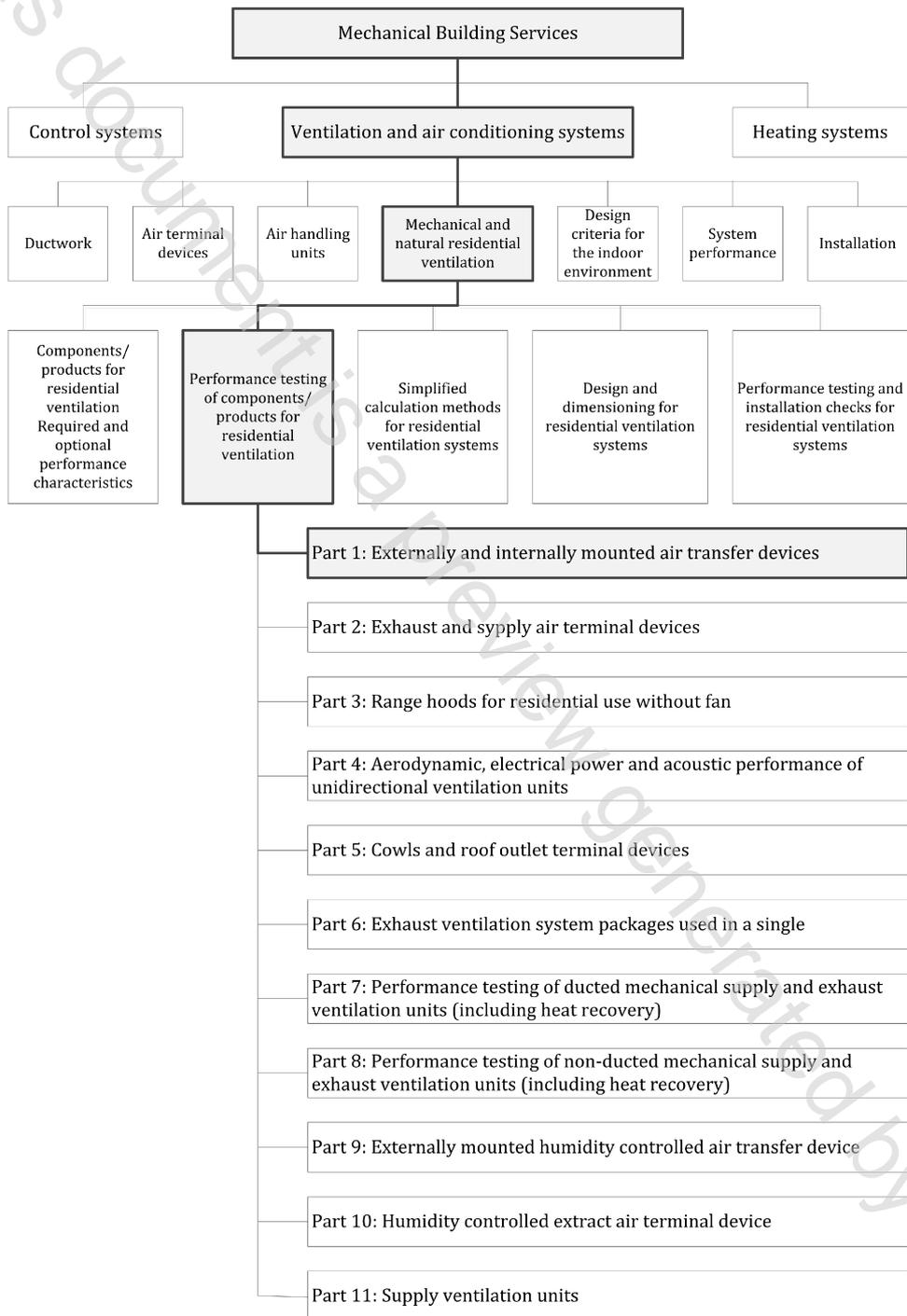


Figure 1 — Position of EN 13141-1 in the field of the mechanical building services

1 Scope

This document specifies laboratory methods for testing externally and internally mounted air transfer devices operating under pressure differences.

This document applies to air transfer devices of the following types:

- air transfer devices with fixed opening(s);
- air transfer devices with manually adjustable opening(s);
- air transfer devices with pressure difference controlled opening(s);
- window openings specifically designed to act as an air transfer device.

This document describes tests intended to characterize the following:

- flow rate/pressure;
- equivalent area
- reverse flow ability;
- air tightness when closed;
- free area;
- air diffusion in the occupied zone;
- sound insulation;
- water tightness.

This document does not apply to evaluation of:

- air filtration;
- condensation risk;
- noise production.

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.

EN 1027, *Windows and doors — Water tightness — Test method*

EN 12238, *Ventilation for buildings — Air terminal devices — Aerodynamic testing and rating for mixed flow application*

EN 12792, *Ventilation for buildings — Symbols, terminology and graphical symbols*

EN 13182, *Ventilation for buildings — Instrumentation requirements for air velocity measurements in ventilated spaces*

EN ISO 10140-2, *Acoustics — Laboratory measurement of sound insulation of building elements — Part 2: Measurement of airborne sound insulation (ISO 10140-2)*

EN ISO 5167 (all parts), *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full (ISO 5167 (series))*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12792 and the following apply. ISO and IEC maintain terminological databases for the use in standardization at the following addresses:

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

3.1

externally mounted air transfer device

device designed to allow the passage of air through the building envelope

Note 1 to entry: Schematically, an externally mounted air transfer device is an assembly made of an external component, an opening and an internal component.

3.2

internally mounted air transfer device

device designed to allow the passage of air between two internal spaces

Note 1 to entry: Schematically an internally mounted air transfer device is an assembly made of an internal component, an opening and another internal component.

3.3

fixed air transfer device

air transfer device without any moving part intended to control the air flow rate

3.4

manually adjustable air transfer device

air transfer device whose moving parts are controlled by the user

3.5

pressure difference controlled air transfer device

air transfer device whose moving parts are controlled according to the pressure difference across it

3.6

flow rate/pressure characteristic

relationship between the flow rate through a device and the pressure difference across it

3.7

reverse flow ability

ability of an air transfer device to prevent the air flow to reverse when the pressure difference Δp across it is inverted