

Ventilation for buildings - Performance measurement
and checks for residential ventilation systems

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14134:2019 sisaldab Euroopa standardi EN 14134:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 14134:2019 consists of the English text of the European standard EN 14134:2019.
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.
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EUROPEAN STANDARD

EN 14134

NORME EUROPÉENNE

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Supersedes EN 14134:2004

English Version

Ventilation for buildings - Performance measurement and checks for residential ventilation systems

Ventilation des bâtiments - Mesure de la performance et vérifications des systèmes de ventilation résidentiels

Lüftung von Gebäuden - Leistungsprüfung und Funktionsprüfungen von Lüftungsanlagen in Wohnungen

This European Standard was approved by CEN on 14 December 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.

CEN members are the national standards bodies of 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 United Kingdom.



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

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European foreword

This document (EN 14134:2019) 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 August 2019, and conflicting national standards shall be withdrawn at the latest by August 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.

This document supersedes EN 14134:2004.

In comparison to EN 14134:2004 the following changes have been made:

- modification of the title to be in accordance with terms defined in this document;
- modification of the scope to delete identification of responsible people;
- modification of the scope to define the on-site and large scale use of this document;
- modification of the definitions to complete them;
- addition of preliminary requirements for the application of this document;
- modification of methods to delete steps order;
- modification of sampling method to be applicable to all checks and measurement defined in this document;
- modification of sampling method to explain the different levels;
- modification of pre-check and functional check methods to be more exhaustive and more detailed;
- additional pre-check for Ecodesign requirements and product labelling;
- addition of requirements for equipment uncertainties;
- removal of requirement for global measurement uncertainties;
- modification of methods for air flow measurement and for ductwork air leakage measurement to be consistent with existing European standards;
- removal of method for control measurement to be consistent with on-site measurement conditions;
- modification of method for noise measurement;
- replacement of Annex A to give example of checklists;
- replacement of Annex B to give example of test pressures;
- removal of Annex C.

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.

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Introduction

The purpose of a residential ventilation system is to supply air to and extract air from rooms in a dwelling.

The ventilation system should be designed to achieve the purpose whilst minimizing energy use and possible discomfort (e.g. noise, draught).

The performance requirements of the ventilation system are laid down by the designer in the dwelling specifications.

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1 Scope

This document specifies checks and measurement methods in order to verify the fitness for purpose of installed ventilation systems in dwellings. It can be applied to commissioning of new systems and performance testing of existing systems. It provides choice between simple test methods, when sufficient, and extensive measurements, when necessary.

Considering that this document has been developed for large scale application and considering the practical conditions of field measurements, no correction regarding ambient conditions (temperature and barometric pressure) is applied to functional measurements.

This document deals with items d), e), f), and g) of the following list giving the different stages of the design, installation, checking and measuring of a ventilation system:

- a) design and dimensioning of residential system;
- b) installation of system;
- c) balancing and adjustment of system;
- d) pre-checks on system;
- e) functional checks on system;
- f) functional measurements on system;
- g) special measurements on system if required.

This document applies to ventilation systems (mechanical, hybrid, natural) comprising any of the following elements:

- air terminal devices (supply, extract, intake and exhaust);
- air transfer devices (externally mounted, internally mounted);
- controls;
- ducts;
- fans;
- filters;
- heat recovery;
- heating/cooling of supply air;
- recirculation air;
- cooker hood;
- cowls;
- dampers;
- sound reduction devices.

In case of multi-functional units, the checking and measuring only apply to the ventilation part. Therefore, this document does not apply to:

- heating systems and their control;
- refrigerating systems and their control;
- electrical power supply systems.

It does not cover the following points:

- airtightness of the building envelope; the whole dwelling and the individual room ventilation rates can be influenced by air infiltration through the building envelope (see EN ISO 9972);
- effect of the ventilation system on indoor air speed within the occupied zone (see for example EN 15726).

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 1507, *Ventilation for buildings - Sheet metal air ducts with rectangular section - Requirements for strength and leakage*

EN 12237, *Ventilation for buildings - Ductwork - Strength and leakage of circular sheet metal ducts*

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

EN ISO 16032, *Acoustics - Measurement of sound pressure level from service equipment in buildings - Engineering method (ISO 16032)*

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 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 check

observation of the operation of a system or devices, against a specification without resorting to specific measurements

[SOURCE: EN 12792:2003; definition 193]

3.2 pre-check

verification of the documentation of a system or devices intended to be used during the check process