



SLOVENSKI STANDARD SIST EN 13141-3:2004

01-september-2004

DfYnfU Yj Ub^YghUj V!`DfYg_i yUb^Y`Ughbcgh`ghUbcj Ub^g_\`dfYnfU Yj Ub]`
_ca dcbYbhnXY_cj `!` "XY.`?i \]b^g_YbUdYnUghUbcj Ub^g_c`i dcfUvc

Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 3: Range hoods for residential use

Lüftung von Gebäuden - Leistungsprüfungen von Bauteilen/Produkten für die Lüftung von Wohnungen - Teil 3: Dunstabzugshauben für den Hausgebrauch

Ventilation des bâtiments - Essais de performance des composants/produits pour la ventilation des logements - Partie 3: Hottes de cuisine pour utilisation domestique

<https://standards.iteh.ai/catalog/standards/sist/8c111da2-a573-476d-a5a1-f6ed9ff8c248/sist-en-13141-3-2004>

Ta slovenski standard je istoveten z: EN 13141-3:2004

ICS:

91.140.30	Ú!^: !æ^çæ) ã Á ã æ \ã •ã^ {ã	Ventilation and air-conditioning
97.040.20	¥c^ãã) ã ãã^ ç) ã ~ cÉ]^ ã^ Á Á [á à) ãã æãã	Cooking ranges, working tables, ovens and similar appliances

SIST EN 13141-3:2004

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 13141-3:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/8c111da2-a573-476d-a5a1-f6ed9ff8c248/sist-en-13141-3-2004>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13141-3

January 2004

ICS 91.140.30; 97.040.20

English version

Ventilation for buildings - Performance testing of
components/products for residential ventilation - Part 3: Range
hoods for residential use

Ventilation des Bâtiments - Essais des performances des
composants/produits pour la ventilation des logements -
Partie 3: Hottes de cuisine pour utilisation domestique

Lüftung von Gebäuden - Leistungsprüfungen von
Bauteilen/Produkten für die Lüftung von Wohnungen - Teil
3: Dunstabzugshauben für den Hausgebrauch

This European Standard was approved by CEN on 22 October 2003.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/8c111da2-a573-476d-a5a1-f6ed9ff8c248/sist-en-13141-3-2004>



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

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

Contents

	page
Foreword	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Performance testing of aerodynamic characteristics.....	6
4.1 Principle.....	6
4.2 Test Installation and Conditions	6
4.3 Test procedure.....	6
4.4 Analysis of results.....	6
4.5 Presentation of results.....	7
5 Performance testing of acoustic characteristics	7
5.1 Noise production	7
5.2 Insertion loss	7
6 Performance testing of grease absorption	8
7 Performance testing of odour extraction.....	8
8 Performance testing of electrical power	8
8.1 Method	8
8.2 Analysis of results.....	8
8.3 Presentation of results.....	8
9 Safety	8
Bibliography.....	9

Foreword

This document (EN 13141-3:2004) 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 2004, and conflicting national standards shall be withdrawn at the latest by July 2004.

The standard is one of a series of standards on residential ventilation. The performance characteristics of the components/products for residential ventilation are given in EN 13142.

The position of this standard in the field of mechanical building services is shown in Figure 1.

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 13141-3:2004

<https://standards.iteh.ai/catalog/standards/sist/8c111da2-a573-476d-a5a1-f6ed9ff8c248/sist-en-13141-3-2004>

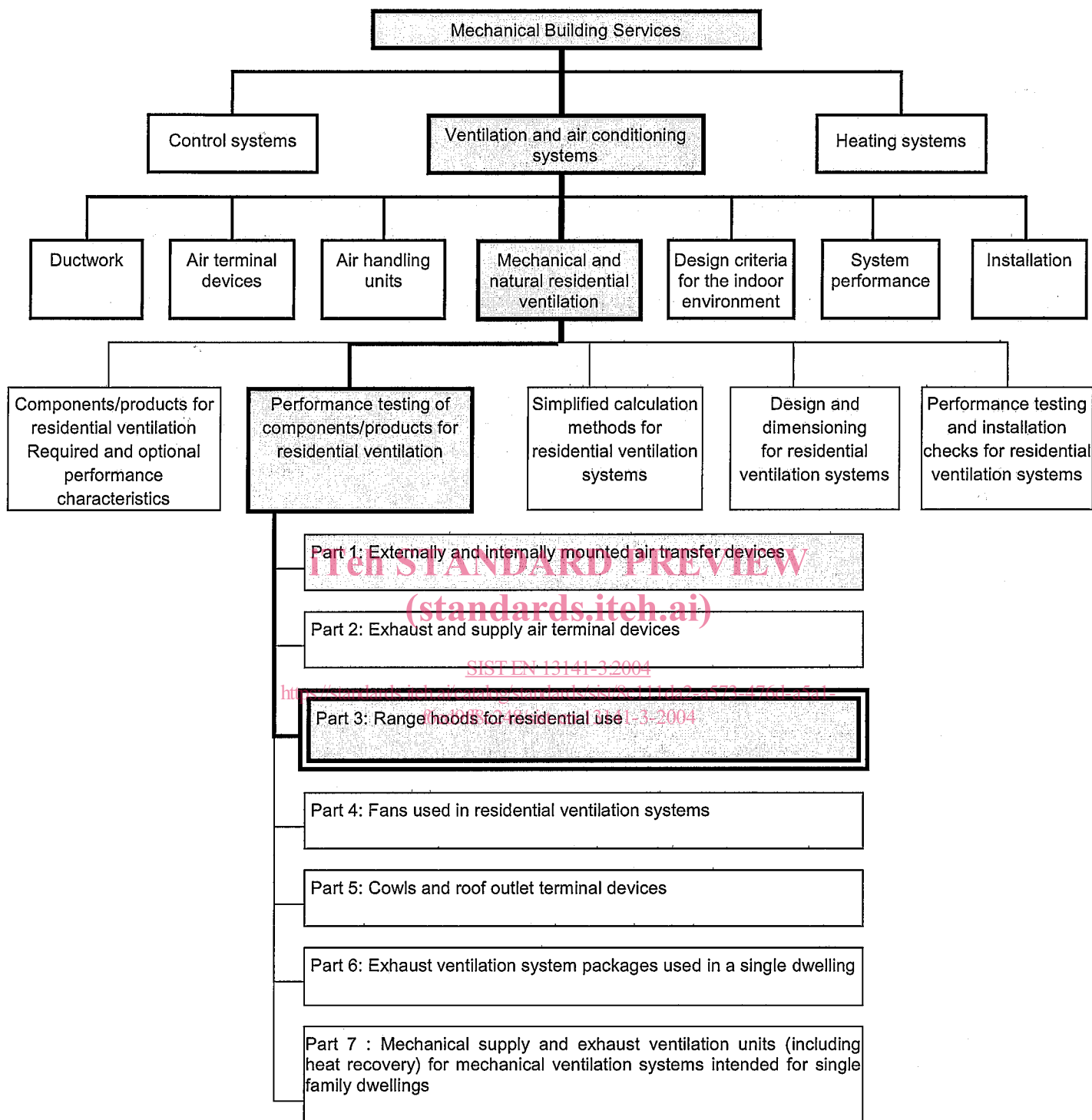


Figure 1 — Position of EN 13141-3 in the field of mechanical building services

1 Scope

This European Standard specifies methods for measuring the main performance characteristics of range hoods for residential use. It applies to recirculating range hoods, air extraction range hoods incorporating a fan and air extraction range hoods without fan.

This standard does not specify values for performance characteristics.

2 Normative references

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 here after. For dated references, subsequent amendment 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 (including amendments).

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

EN 13141-2:2003, *Ventilation for buildings – Performance testing of components/products for residential ventilation – Part 2: Exhaust and supply air terminal devices.*

EN 13141-4:2003, *Ventilation for buildings – Performance testing of components/products for residential ventilation – Part 4: Fans used in residential ventilation systems.*

EN 60335-2-31, *Safety of household and similar electrical appliances – Part 2: Particular requirements for range hoods (IEC 60335-2-31:1995).*

ISO 5801, *Industrial Fans – Performance testing using standardized airways.*

IEC 61591:1997, *Household range hoods – Methods for measuring performance.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12792 and EN 13141-2 together with the following definitions apply.

3.1

range hood (cooker hood)

device intended to collect contaminated air from above a cooking appliance and either discharge it into the room or remove it from the room

NOTE Range hood may incorporate one or more of the following components:

- filters (essential when the contaminated air is discharged into the room);
- fan;
- fire damper;
- non return flow damper.

3.2

recirculating-air range hood

range hood containing filters to remove contaminants after which the cleaned air is discharged back into the room

3.3

air-extraction range hood

range hood which discharges the collected air to the outside of the building by means of ducting

EN 13141-3:2003 (E)**3.4****test-voltage**

voltage to be used for supplying the range hood during the testing

3.5**grease absorption factor**

measure of the percentage of grease retained within a filter

3.6**odour reduction factor**

measure of the capability of the range hood to reduce odours

3.7**odour dispersion time**

time taken to reduce odour to a defined level after odour generating source has been switched off

4 Performance testing of aerodynamic characteristics**4.1 Principle**

The test consists in measuring the volume flow rates induced through the device at several values of the pressure difference across the device in order to define the flow rate/pressure characteristic curve.

Tests shall be carried out with all new filters.

Range hoods not incorporating a fan shall be tested according to the Exhaust/Supply Air Terminal Device test method, described in EN 13141-2:2003, clause 4.

Where reference is made to existing test methods, care shall be taken in the installation of the range hood because its dimensions could be much larger than those of other air terminal devices.

4.2 Test Installation and Conditions

For the recirculating-air range hood, the test installation and conditions shall conform to 4.2 of prEN 14134-4:2003 under Category A conditions.

For the air-extraction range hood (incorporating a fan), the test installation and conditions shall conform to 4.2 of EN 13141-4:2003 under Category B conditions. The air-extraction range hood shall be connected to ductwork which gives a pressure drop of 30 Pa through the ductwork at maximum flow rate.

4.3 Test procedure

The test procedure shall conform to 4.3 of EN 13141-4:2003.

Measurements shall be made at the lowest and highest air flow rate settings, and for any other level specified by the manufacturer.

Where a single value is assigned by the manufacturer as rated voltage, this shall be the test voltage. Where a voltage range is assigned to the product by the manufacturer that includes 230 V, the test voltage shall be 230 V.

This voltage shall be maintained to $\pm 1\%$ throughout the testing.

4.4 Analysis of results

Analysis of the results shall conform to 4.4 of EN 13141-4:2003, for the determination of the flow rate/pressure characteristic curves.

The volumetric airflow rate of the range hood shall then be determined, for each setting of fan speed, by the intersection between the characteristic curve and the air flow/pressure curves of two standard duct systems.

4.5 Presentation of results

Results shall be presented according to 4.4 of EN 13141-4:2003.

5 Performance testing of acoustic characteristics

5.1 Noise production

5.1.1 Principle

When operating, the range hood generates noise, some of which is radiated into the room. The method described below allows to determine the acoustic power level of the noise thus emitted.

Range hoods not incorporating a fan shall be tested according to the Exhaust Air Terminal Device test method specified in 5.1 of EN 13141-2:2003.

5.1.2 Test installation and conditions

Test installation and conditions shall conform to 5.1 of EN 13141-2:2003 with the following arrangements:

- for the recirculating-air range hood, the complete device shall be located in the reverberant room where the measurements are made. There shall be no connection with the second room;
- for the air-extraction range hood (incorporating a fan), a duct with a nominal length of 1,8 m shall be connected to the device and positioned in the adjacent reverberant room;
- due to the size of the range hood and its position in a room in normal use, the position of the range hood in/on the wall separating the 2 reverberant rooms shall be at a minimum distance of 1 m from all other walls, and preferably away from any symmetry axis of the room.

5.1.3 Test procedure

The test shall be carried out in accordance with 5.1 of EN 13141-2:2003.

5.1.4 Presentation of results

The results shall be presented according to 5.3 of EN 13141-2:2003.

5.2 Insertion loss

5.2.1 Principle

The following test quantifies the sound attenuation through a range hood, the objective being to allow the evaluation of sound transmission from one dwelling to another through the ventilation duct. This test is therefore not required for recirculating air range hoods.

NOTE For a range hood incorporating a fan, it is assumed that when the fan is operating, the noise transmission is less significant than the noise production determined in 5.1.

5.2.2 Test installation and conditions

The test shall conform to 5.2.2 of EN 13141-2:2003.