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## **Elektriska hushållsapparater och liknande bruksföremål – Provningsmetod för bestämning av luftburet buller – Del 2-13: Särskilda fordringar på spisfläktar och spiskåpor**

*Household and similar electrical appliances –*

*Test code for the determination of airborne acoustical noise –*

*Part 2-13: Particular requirements for range hoods and other cooking fume extractors*

Som svensk standard gäller europastandarden EN 60704-2-13:2017. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60704-2-13:2017.

### **Nationellt förord**

Europastandarden EN 60704-2-13:2017

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60704-2-13, Third edition, 2016 - Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-13: Particular requirements for range hoods and other cooking fume extractors**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60704-1, utgåva 3, 2010.

Tidigare fastställd svensk standard SS-EN 60704-2-13, utgåva 2, 2011, gäller ej fr o m 2019-11-30.

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### **SEK Svensk Elstandard**

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English Version

**Household and similar electrical appliances - Test code for the  
determination of airborne acoustical noise - Part 2-13: Particular  
requirements for range hoods and other cooking fume extractors  
(IEC 60704-2-13:2016)**

Appareils électrodomestiques et analogues - Code d'essai  
pour la détermination du bruit aérien - Partie 2-13:  
Exigences particulières pour les hottes de cuisine et autres  
extracteurs de fumée de cuisine  
(IEC 60704-2-13:2016)

Elektrische Geräte für den Hausgebrauch und ähnliche  
Zwecke - Prüfvorschrift für die Bestimmung der  
Luftschallemission - Teil 2-13: Besondere Anforderungen  
für Dunstabzugshauben  
(IEC 60704-2-13:2016)

This European Standard was approved by CENELEC on 2016-11-30. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## **European foreword**

The text of document 59K/272/CDV, future edition 3 of IEC 60704-2-13, prepared by SC 59K: "Performance of household and similar electrical cooking appliances" of IEC/TC 59: "Performance of household and similar electrical appliances." was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60704-2-13:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-08-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-11-30

This document supersedes EN 60704-2-13:2011.

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

## **Endorsement notice**

The text of the International Standard IEC 60704-2-13:2016 was approved by CENELEC as a European Standard without any modification.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

#### **Addition** to Annex ZA of EN 60704-1:2010:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61591	1997	Household range hoods - Methods for measuring performance	EN 61591	1997
+ A1	2005		+ A1	2006
+ A2	2010		+ A2	2011
-	-		+ A11	2014
-	-		+ A12	2015
ISO 7235	-	Acoustics - Laboratory measurement procedures for ducted silencers and air-terminal units - Insertion loss, flow noise and total pressure loss	EN ISO 7235	2009

#### **Replace**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 3743-1	2010	Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for small movable sources in reverberant fields - Part 1: Comparison method for a hard-walled test room	EN ISO 3743-1	2010
ISO 3744	2010	Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane	EN ISO 3744	2010

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
TEST CODE FOR THE DETERMINATION OF AIRBORNE  
ACOUSTICAL NOISE –****Part 2-13: Particular requirements for range hoods  
and other cooking fume extractors**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60704-2-13 has been prepared by subcommittee 59K: Performance of household and similar electrical cooking appliances, of IEC technical committee 59: Performance of household and similar electrical appliances.

This third edition cancels and replaces the second edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) change of title, scope and definitions 3.103 and 3.104: the standard is dealing with cooking fume extractors (this covers range hoods and down-draft systems);
- b) exhaust pipe of down-draft systems specified;

- c) built-in recirculation-air range hoods with an air outlet device specified;
- d) Annex AA has been deleted.

The text of this standard is based on the following documents:

CDV	Report on voting
59K/272/CDV	59K/283/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-13 is intended to be used in conjunction with IEC 60704-1:2010 (3rd edition), *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60704-1.

This Part 2-13 supplements or modifies the corresponding clauses in IEC 60704-1, so as to establish the test code for cooking fume extractors. When a particular subclause of Part 1 is not mentioned in this Part 2-13, that subclause is applicable as far as reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirements, test specifications or explanatory matter in Part 1 are to be adapted accordingly.

Subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1. Additional annexes are lettered AA, BB, etc.

Unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause.

A list of all parts in the IEC 60704 series, published under the general title *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.



## INTRODUCTION

The measuring conditions specified in this part of IEC 60704 provide for sufficient accuracy in determining the noise emitted and comparing the results of measurements taken by different laboratories, whilst simulating as far as possible the practical use of household range hoods and other cooking fume extractors.

It is recommended to consider the determination of noise levels as part of a comprehensive testing procedure covering many aspects of the properties and performance of household range hoods and other cooking fume extractors.

NOTE As stated in the introduction to IEC 60704-1, this test code is concerned with airborne noise only.

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – TEST CODE FOR THE DETERMINATION OF AIRBORNE ACOUSTICAL NOISE –

## Part 2-13: Particular requirements for range hoods and other cooking fume extractors

### 1 Scope and object

This clause of Part 1 is applicable except as follows:

#### 1.1 Scope

##### 1.1.1 General

*Addition:*

These particular requirements apply to electrical range hoods and other cooking fume extractors for household and similar use intended for filtering the air of a room or for exhausting the air out of a room, including their accessories and their component parts. It also applies to cooking fume extractors with an external fan which may be mounted inside or outside of the room where the range hood is located or a down-draft system that is arranged beside, behind or under the cooking surface.

##### 1.1.2 Types of noise

*Replacement:*

The methods specified in ISO 3743-1, ISO 3743-2 and ISO 3744 can be used for measuring noise emitted by cooking fume extractors.

##### 1.1.3 Size of source

*Replacement:*

The method specified in ISO 3744 is applicable to noise sources of any size. When applying ISO 3743-1 and ISO 3743-2, care should be taken that the maximum size of the cooking fume extractor under test fulfils the requirements specified in 1.2 of ISO 3743-1 and 1.3 of ISO 3743-2.

### 1.2 Object

*Addition:*

This standard describes the determination of the noise emission of household cooking fume extractors under normal operating conditions and at the highest fan speed setting for normal use.

NOTE 101 If a boost position is incorporated, this is not taken into account (see 6.5 of IEC 61591:1997).

NOTE 102 A boost position is a setting of a control for occasional use, which results in a higher temporary fan speed (see 6.5 of IEC 61591:1997).

Requirements for the declaration of noise emission values are not within the scope of this standard.

NOTE 103 For determining and verifying noise emission values declared in product specifications, see IEC 60704-3.

### 1.3 Measurement uncertainty

*Replacement:*

The estimated values of standard deviations of sound power levels, determined according to this standard, are as follows (see Table 101):

**Table 101 – Standard deviations of sound power levels**

Standard deviation (dB)	
$\sigma_r$ (repeatability)	$\sigma_R$ (reproducibility)
0,4	1,0

*Addition:*

#### 1.101 Standard deviation for declaration and verification

For the purpose of determining and verifying declared noise emission values according to IEC 60704-3, the following values apply (see Table 102):

**Table 102 – Standard deviations for declaration and verification**

Standard deviation (dB)		
$\sigma_P$ (production)	$\sigma_t$ (total)	$\sigma_M$ (reference)
1,5 to 1,7	1,8 to 2,0	2,0

## 2 Normative references

This clause of Part 1 is applicable except as follows:

*Replacement:*

ISO 3743-1:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for small movable sources in reverberant fields – Part 1: Comparison method for a hard-walled test room*

ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane*

*Addition:*

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

IEC 61591:1997/AMD1:2005<sup>1</sup>

IEC 61591:1997/AMD2:2010

ISO 7235:2003, *Acoustics – Laboratory measurement procedures for ducted silencers and air-terminal units – Insertion loss, flow noise and total pressure loss*

<sup>1</sup> There exists a consolidated edition 1.1 of IEC 61591 (2005), that includes IEC 61591 (1997) and its amendment 1 (2005).