

# **SLOVENSKI STANDARD**

## **SIST EN 60704-2-13:2011**

**01-junij-2011**

**Nadomešča:**

**SIST EN 60704-2-13:2001**

**SIST EN 60704-2-13:2001/A1:2007**

**SIST EN 60704-2-13:2001/A2:2009**

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**Gospodinski in podobni električni aparati - Preskuševalni kod za ugotavljanje zvočnega hrupa v zraku - 2-13. del: Posebne zahteve za kuhinjske nape (IEC 60704-2-13:2011)**

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-13: Particular requirements for range hoods (IEC 60704-2-13:2011)

[SIST EN 60704-2-13:2011](#)  
Elektrische Geräte für den Hausgebrauch und ähnliche Zwecke - Prüfvorschrift für die Bestimmung der Luftschallemission - Teil 2-13: Besondere Anforderungen für Dunstabzugshauben (IEC 60704-2-13:2011)

Appareils électrodomestiques et analogues - Code d'essai pour la détermination du bruit aérien - Partie 2-13: Règles particulières pour les hottes de cuisine (CEI 60704-2-13:2011)

**Ta slovenski standard je istoveten z: EN 60704-2-13:2011**

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**ICS:**

|           |  |  |
|-----------|--|--|
| 17.140.20 | Emisija hrupa naprav in opreme                       | Noise emitted by machines and equipment                      |
| 97.040.20 | Štedilniki, delovni pulti, pečice in podobni aparati | Cooking ranges, working tables, ovens and similar appliances |

**SIST EN 60704-2-13:2011**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

# EN 60704-2-13

April 2011

ICS 17.140.20; 97.040.20

Supersedes EN 60704-2-13:2000 + A1:2006 + A2:2008

English version

**Household and similar electrical appliances -  
Test code for the determination of airborne acoustical noise -  
Part 2-13: Particular requirements for range hoods  
(IEC 60704-2-13:2011)**

Appareils électrodomestiques et  
analogues -  
Code d'essai pour la détermination du  
bruit aérien -  
Partie 2-13: Règles particulières pour les  
hottes de cuisine  
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Elektrische Geräte für den Hausgebrauch  
und ähnliche Zwecke -  
Prüfvorschrift für die Bestimmung der  
Luftschallemission -  
Teil 2-13: Besondere Anforderungen für  
Dunstabzugshauben  
(IEC 60704-2-13:2011)

**STANDARD PREVIEW**  
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This European Standard was approved by CENELEC on 2011-03-03. 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 Central Secretariat 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 Central Secretariat 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## CENELEC

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

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

## Foreword

The text of document 59K/219/FDIS, future edition 2 of IEC 60704-2-13, prepared by SC 59K, Ovens and microwave ovens, cooking ranges and similar appliances, of IEC TC 59, Performance of household electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60704-2-13 on 2011-03-03.

This European Standard supersedes EN 60704-2-13:2000 + A1:2006 + A2:2008.

EN 60704-2-13:2011 cancels and replaces EN 60704-2-13:2000 + A1:2006 + A2:2008 and constitutes an adaptation to the third edition of EN 60704-1 (2010).

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

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

This Part 2-13 supplements or modifies the corresponding clauses in EN 60704-1, so as to establish the test code for range hoods. 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 is to be adapted accordingly.

Subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1.

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.

Additional annexes are lettered AA, BB, etc.

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

The following dates were fixed:

- |  |       |            |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-12-03 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn   | (dow) | 2014-03-03 |

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60704-2-13:2011 was approved by CENELEC as a European Standard without any modification.

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## **Annex ZA** (normative)

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

The following referenced documents are indispensable for the application 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.

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

*Addition:*

| <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        |
| ISO 7235           | 2003        | Acoustics - Laboratory measurement procedures for ducted silencers and air-terminal units - Insertion loss, flow noise and total pressure loss | EN ISO 7235  | 2009        |

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IEC 60704-2-13

Edition 2.0 2011-01

# INTERNATIONAL STANDARD

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**Household and similar electrical appliances – Test code for the determination of  
airborne acoustical noise –  
Part 2-13: Particular requirements for range hoods**

[SIST EN 60704-2-13:2011  
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ISBN 978-2-88912-328-5

## 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

### 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: Ovens and microwave ovens, cooking ranges and similar appliances, of IEC technical committee 59: Performance of household and similar electrical appliances.

This second edition cancels and replaces the first edition (2000) and constitutes an adaptation to the third edition of IEC 60704-1 (2010).

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

|              |                  |
|--------------|------------------|
| FDIS         | Report on voting |
| 59K/219/FDIS | 59K/223/RVD      |

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



This publication 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 range hoods. 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 is to be adapted accordingly.

Subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1.

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.

Additional annexes are lettered AA, BB, etc.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or [SIST EN 60704-2-13:2011](https://standards.iteh.ai/catalog/standards/sist/722b1930-8c36-45ea-b115-abc3ec169363/sist-en-60704-2-13-2011)
- amended. <https://standards.iteh.ai/catalog/standards/sist/722b1930-8c36-45ea-b115-abc3ec169363/sist-en-60704-2-13-2011>

A bilingual version of this publication may be issued at a later date.

## INTRODUCTION

The measuring conditions specified in this Part 2-13 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.

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.

Compared to the first edition (2000) of this Part 2-13, the second edition doesn't contain the description of an appropriate test enclosure which has now been incorporated in Part 1. The scope of this Part 2-13 has been extended to range hoods with an external fan. Furthermore the values of standard deviations of sound power levels determined according to this part are given.

In case of unavailability of an acoustical environment which is specified in Clause 4 of ISO 3743-1, ISO 3743-2 and ISO 3744 alternatively the sound power of range hoods can be determined according to Annex AA using the sound intensity method specified in ISO 9614-1 and ISO 9614-2. This method is not suitable if the source under test has significant noise over 4,0 kHz for octave band frequencies or 6,3 kHz for one-third octave band frequencies. Sound intensity method for the determination of sound power levels shall not be used for the purpose of verification.

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

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

## Part 2-13: Particular requirements for range hoods

### 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 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 range hoods with an external fan which may be mounted inside or outside of the room where the range hood is located.

##### 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 range hoods.

##### 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 range hood under test fulfils the requirements specified in 1.3 of ISO 3743-1 and ISO 3743-2.

### 1.2 Object

*Addition:*

This standard describes the determination of the noise emission of household range hoods 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).

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).

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:

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

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

### 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:

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

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

## 2 Normative references

This clause of Part 1 is applicable with the following addition:

Addition:

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

Amendment 1 (2005)<sup>1</sup>

Amendment 2 (2010)

<https://standards.iteh.ai/catalog/standards/sist/722b1930-8c36-45ea-b115-abc3ec169363/sist-en-60704-2-13-2011>

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

## 3 Terms and definitions

This clause of Part 1 is applicable with the following addition:

### 3.101

#### range hood

appliance installed over a hob and through which air is passed to remove contaminants from the room

[IEC 61591, definition 3.1]

### 3.102

#### recirculation-air range hood

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

[IEC 61591, definition 3.2]

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