



SLOVENSKI STANDARD
oSIST prEN IEC 60704-2-13:2023
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Gospodinjski in podobni električni aparati - Postopek preskušanja za ugotavljanje zvočnega hrupa v zraku - 2-13. del: Posebne zahteve za odvajalnike kuhinjskih hlapov

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-13: Particular requirements for cooking fume extractors

ITeH STANDARD PREVIEW
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Appareils électrodomestiques et analogues - Code d'essai pour la détermination du bruit aérien - Partie 2-13: Exigences particulières pour extracteurs de fumée de cuisine

Ta slovenski standard je istoveten z: prEN IEC 60704-2-13:2023

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

oSIST prEN IEC 60704-2-13:2023 en



59K/364/CDV

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IEC SC 59K: PERFORMANCE OF HOUSEHOLD AND SIMILAR ELECTRICAL COOKING APPLIANCES	
SECRETARIAT: Germany	SECRETARY: Ms Susanne Stolz
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 59	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
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TITLE:

Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-13: Particular requirements for cooking fume extractors

PROPOSED STABILITY DATE: 2025

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CONTENTS

CONTENTS	1
FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Measurement methods and acoustical environments	8
5 Instrumentation	9
6 Operation and location of appliances under test	9
7 Measurement of sound power levels	14
8 Calculation of sound pressure and sound power levels	15
9 Information to be recorded	15
10 Information to be reported	15
Annex A (normative)	18
Figure 101 - Test enclosure for down-draft systems	12
Figure 102 - Test enclosure for built-in appliances	13
Figure 103 – Standard load for cooking fume extractors	16
Figure 104 – Example of standard stand	17
Figure 105 – Standard load for cooking fume extractors with an external fan	17
Table 1 – Standard deviations of sound power levels	9
Table 2 – Standard deviations for declaration and verification	9
Table 103 – diameter of the standard load for CFEs	11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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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 fourth edition cancels and replaces the third edition published in 2016. This edition constitutes a technical revision.

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

- a) Alignment with IEC 61591 Ed. 3.0 (59K/352/CDV);
- b) 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);
- c) exhaust pipe of down-draft systems specified;
- d) built-in range hoods in recirculation mode with an air outlet device specified;

The text of this International Standard is based on the following documents:

Draft	Report on voting
59K/XXXX/FDIS	59K/XXXX/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is intended to be used in conjunction with IEC 60704-1:2021 (4th edition), *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*.

This document supplements or modifies the corresponding clauses in IEC 60704-1:2021, so as to establish the test code for cooking fume extractors. When a particular subclause of IEC 60704-1:2021 is not mentioned in this document, 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 IEC 60704-1:2021 are to be adapted accordingly.

Subclauses, tables and figures that are numbered starting from 101 are additional to those in IEC 60704-1:2021. Additional annexes are lettered AA, BB, etc.

Unless notes are in a new subclause or involve notes in IEC 60704-1:2021, 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 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.

1

INTRODUCTION

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

6 It is recommended to consider the determination of noise levels as part of a comprehensive
7 testing procedure covering many aspects of the properties and performance of cooking fume
8 extractors.

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

10

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11 **HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –**
12 **TEST CODE FOR THE DETERMINATION OF AIRBORNE**
13 **ACOUSTICAL NOISE –**

14
15 **Part 2-13: Particular requirements for cooking fume extractors**
16
17
18

19 **1 Scope**

20 This clause of IEC 60704-1:2021 is applicable except as follows:

21 *Addition:*

22 These particular requirements apply to cooking fume extractors for household and similar use
23 intended for filtering the air of a room or for exhausting the air out of a room, including their
24 accessories and their component parts. It also applies to cooking fume extractors where the fan
25 is mounted separately from the appliance inside or outside of the room where the appliance is
26 located, but controlled by the appliance when the fan is defined in the technical documentation.
27 This document deals also with down-draft systems that is arranged beside, behind or under the
28 cooking appliance.

29 Measurements according to this standard determines the noise emission into the room, from which
30 cooking fumes are extracted. Noise emission to the outside (e.g. through air ducts) are not considered.

31 **2 Normative references**

32 The following documents are referred to in the text in such a way that some or all of their content
33 constitutes requirements of this document. For dated references, only the edition cited applies.
34 For undated references, the latest edition of the referenced document (including any
35 amendments) applies.

36 This clause of IEC 60704-1:2021 is applicable except as follows:

37 *Addition:*

38 IEC 61591: 2023, *Cooking fume extractors - Methods for measuring performance*
39 ISO 7235:2003, *Acoustics – Laboratory measurement procedures for ducted silencers and air-*
40 *terminal units – Insertion loss, flow noise and total pressure loss*

41 **3 Terms and definitions**

42 This clause of IEC 60704-1:2021 is applicable except as follows:

43 *Addition:*

44 **3.101**
45 **cooking fume extractor**

46 *CFE*

47 appliance with fan and filter intended to collect and treat cooking fumes, which can be operated
48 in recirculation mode or extraction mode

49 [SOURCE: IEC 61591: 2023, 3.2]

50

51 **3.102**52 **range hood**53 **CFE** installed over a cooking appliance

54 [SOURCE: IEC 61591:2023, 3.3]

55 **3.103**56 **wall range hood**

57 range hood mounted to the wall

58 [SOURCE: IEC 61591:2023, 3.3.1]

59 **3.104**60 **island range hood**

61 range hood mounted to the ceiling

62 [SOURCE: IEC 61591:2023, 3.3.2]

63 **3.105**64 **ceiling range hood**

65 range hood integrated onto or into the ceiling

66 [SOURCE: IEC 61591:2023, 3.3.3]

67 **3.106**68 **built-in range hood**

69 range hood mounted into or onto a cabinet

70 [SOURCE: IEC 61591:2023, 3.3.4]

71 **3.107**72 **microwave hood combination**73 **CFE** integrated in a microwave oven

74 [SOURCE: IEC 61591:2023, 3.4]

75 **3.108**76 **multiple combination hood**77 **CFE** where the fan is mounted separately of the appliance, but controlled by the appliance

78 [SOURCE: IEC 61591:2023, 3.5]

79 **3.109**80 **down-draft system**81 **CFE** intended for installation adjacent to a cooking appliance or integrated in a cooking
82 appliance that draws vapour down into a duct

83

84 Note 1 to entry: A **down-draft system** can also be a system where the fan is mounted separately from the
85 appliance but controlled by the appliance.

86 [SOURCE: IEC 61591:2023, 3.6]

87 **3.110**88 **recirculation mode**89 mode of a **CFE** that discharges air back into the room, which includes an odour-reduction filter

90 [SOURCE: IEC 61591:2023, 3.7]

91 **3.111**

92 **extraction mode**

93 mode of a **CFE** that discharges the air to the outside of the building by means of ducting

94 Note 1 to entry: **Extraction mode** is also known as "vented mode" or "ducted mode".

95 [SOURCE: IEC 61591:2023, 3.8]

96 **3.112**

97 **rated voltage**

98 voltage assigned to the **CFE** by the manufacturer

99 [SOURCE: IEC 61591:2023, 3.9]

100 **3.113**

101 **highest continuous setting for normal use**

102 control setting of **CFE** at highest speed, excluding the **boost position setting**

103 Note 1 to entry: Marked setting on the appliance, which is described in the instructions for use.

104 [SOURCE: IEC 61591:2023, 3.15]

105 **3.114**

106 **boost position setting**

107 marked control setting at maximum fan speed, which is automatically limited in duration

108 Note 1 to entry: Marked setting on the appliance, which is described in the instructions for use.

109 [SOURCE: IEC 61591:2023, 3.16]

110 **4 Measurement methods and acoustical environments**

111 *This clause of IEC 60704-1:2021 is applicable except as follows:*

112 **4.2 Direct method**

113 *Addition:*

114 If pure tone components are present in the noise emitted by the source, the estimated standard
115 deviation of the measured sound pressure levels in the special reverberation room may increase.
116 In such cases additional microphone positions or source positions may be necessary as
117 specified in ISO 3743-2.

118 **4.3 Comparison method**

119 *Addition:*

120 If pure tone components are present in the noise emitted by the source, the estimated standard
121 deviation of the measured sound pressure levels in the hard-walled test room or in the special
122 reverberation room may increase. In such cases additional microphone positions or source
123 positions may be necessary as specified in ISO 3743-1 or ISO 3743-2.

124

125 4.5 Measurement uncertainties

126 4.5.2 Standard deviations on repeatability and reproducibility and standard 127 deviations related to declaration and verification

128 *Replacement:*

129 The estimated values of standard deviations of sound power levels determined according to
130 this standard are given in table 1:

131 **Table 1 – Standard deviations of sound power levels**

Standard deviation (dB)	
σ_r (repeatability)	σ_R (reproducibility)
x	x

132

133 For the purpose of determining and verifying noise emission values according to IEC 60704-3,
134 the values in table 2 apply:

135 **Table 2 – Standard deviations for declaration and verification**

Standard deviation (dB)		
σ_p (production)	σ_t (total)	σ_M (reference)
x to x	x to x	x

136

137 Secretary's Note: The standard deviations will be determined in a round robin test.

138 5 Instrumentation

139 *This clause of IEC 60704-1:2021 is applicable except as follows:*

140 5.1 Instrumentation for measuring acoustical data

141 *Addition:*

142 The use of a windscreen is recommended. If necessary, the observed sound pressure level
143 shall be corrected for changes in the microphone sensitivity, in accordance with the instructions
144 accompanying the instrumentation.

145 6 Operation and location of appliances under test

146 *This clause of IEC 60704-1:2021 is applicable except as follows:*

147 6.1 Equipping and pre-conditioning of appliances

148 6.1.1

149 *Addition:*

150 **CFEs** shall be fitted with (a) clean filter(s).

151 Note: The filter(s) have to be replaced after a grease absorption test, while a odour reduction test does not soil the
152 filter(s).