



SLOVENSKI STANDARD
oSIST prEN IEC 60704-2-2:2023
01-maj-2023

Gospodinski in podobni električni aparati - Postopek preskušanja za ugotavljanje zvočnega hrupa v zraku - 2-2. del: Posebne zahteve za ventilacijske grelnike

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-2: Particular requirements for fan heaters

iTeh STANDARD PREVIEW
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Appareils électrodomestiques et analogues - Code d'essai pour la détermination du bruit aérien - Partie 2-2: Exigences particulières pour les appareils de chauffage soufflants

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

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
97.100.10	Električni grelniki	Electric heaters

oSIST prEN IEC 60704-2-2:2023 en



PROJECT NUMBER:

IEC 60704-2-2 ED3

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CLOSING DATE FOR VOTING:

2023-06-02

SUPERSEDES DOCUMENTS:

59C/279/CD, 59C/283A/CC

IEC SC 59C : ELECTRICAL HEATING APPLIANCES FOR HOUSEHOLD AND SIMILAR PURPOSES

SECRETARIAT:

Germany

SECRETARY:

Mr Leo Kaim

OF INTEREST TO THE FOLLOWING COMMITTEES:

TC 59

PROPOSED HORIZONTAL STANDARD:

Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

 EMC ENVIRONMENT QUALITY ASSURANCE SAFETY SUBMITTED FOR CENELEC PARALLEL VOTING NOT SUBMITTED FOR CENELEC PARALLEL VOTING**Attention IEC-CENELEC parallel voting**

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of

- any relevant patent rights of which they are aware and to provide supporting documentation,
- any relevant "in some countries" clauses to be included should this proposal proceed. Recipients are reminded that the enquiry stage is the final stage for submitting "in some countries" clauses. See AC/22/2007.

TITLE:

Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-2: Particular requirements for fan heaters

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

The CDV was worked out by TC 59 JWG 2.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
TEST CODE FOR THE DETERMINATION OF
AIRBORNE ACOUSTICAL NOISE –****Part 2-2: Particular requirements for fan heaters****FOREWORD**

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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60704-2-2 has been prepared by subcommittee 59C: Heating appliances, of IEC technical committee 59: Performance of household and similar electrical appliances.

This third edition cancels and replaces the second edition published in 2009 and constitutes a technical revision. The main changes from the previous edition are as follows: Alignment the latest editions of IEC 60704-1, several ISO-standards, revision of built-in-conditions, requirements on climatic conditions and on background noise.

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

CDV	Result on voting
xxxx	xxxx

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

The French version of this standard has not been voted upon.

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

This part 2-2 is intended to be used in conjunction with IEC 60704-1, 4th edition 2021: *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*.

The relevant text of part 1 as amended by this publication establishes the test code for fan heaters.

This part 2-2 supplements or modifies the corresponding clauses in IEC 60704-1:2021. When a particular subclause of part 1 is not mentioned in this part 2-2, that subclause applies as far as reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirement, test specifications or explanatory matter in part 1 shall be adapted accordingly.

Subclauses or figures which are additional to those in part 1 are numbered starting from 101.

Additional annexes are lettered AA, BB, etc.

A list of all the parts in the IEC 60704 series, 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 publication will remain unchanged until the maintenance result 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
- amended.

1

INTRODUCTION

2 The measuring conditions specified in this part 2-2 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 fan heaters.

5 It is recommended to consider the determination of noise levels as part of a comprehensive
6 testing procedure covering many aspects of the properties and performance of fan heaters.

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

8

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

12
13 **Part 2-2: Particular requirements for fan heaters**
14

15
16
17 **1 Scope**

18 *Replacement:*

19 This standard applies to electric fan heaters, designed for placing on the floor, table or
20 counter, etc., or for mounting.

21 This standard does not apply to

- 22 – electric storage room heaters;
23 – room humidifiers;
24 – room dehumidifiers;
25 – air cleaners;
26 – heaters designed exclusively for industrial purposes.

27 For determining and verifying noise emission values declared in product specifications, see
28 IEC 60704-3:2019.

29
30 **2 Normative references**

31 This clause of part 1 is applicable.

32 **3 Terms and definitions**

33 This clause of part 1 is applicable.

34 **4 Measurement methods and acoustical environments**

35 This clause of part 1 is applicable except as follows:

36 **4.2 Direct method**

37 *Addition:*

38 NOTE If pure tone components are present in the noise emitted, proper precautions should be taken as specified
39 in ISO 3743-2.

40 **4.3 Comparison method**

41 *Addition:*

42 NOTE If pure tone components are present in the noise emitted, proper precautions should be taken as specified
43 in ISO 3743-1 and 3743-2.

44 **4.4.1 Replacement:**

45 ISO 3743-1, ISO 3743-2 and ISO 3744 can be used for measuring noise emitted by fan
46 heaters.

47 The method specified in ISO 3744 is applicable to noise sources of any size. When applying
48 ISO 3743-1 and ISO 3743-2, care shall be taken that the maximum size of the appliance
49 under test fulfils the requirements specified in Subclause 1.3 of ISO 3743-1 and ISO 3743-2.

50 4.5 Measurement uncertainty

51 4.5.2 Standard deviations on repeatability and reproducibility and standard 52 deviations related to declaration and verification

53 *Replacement:*

54 The estimated values of standard deviations of sound power levels, determined according to
55 this standard, are given in table 1:

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

Standard deviation, dB	
σ_r (repeatability)	σ_R (reproducibility)
0,4	1,0

57

58 For the purpose of determining and verifying declared noise emission values according to
59 IEC 60704-3, the following values apply:

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

Standard deviation, dB		
σ_P (production)	σ_t (total)	σ_M (reference)
0,3 – 1,1	1,0 – 1,6	1,5

61

62 5 Instrumentation

63 This clause of part 1 is applicable except as follows:

64 5.1 *Addition:*

65 Windscreens should be used and the relevant corrections for changes in the microphone
66 sensitivity shall be added to the observed sound pressure levels.

67 6 Operation and location of appliances under test

68 This clause of part 1 is applicable except as follows:

69 6.1 **Equipping and pre-conditioning of appliances**

70 6.1.1 *Addition:*

71 Air filters, if any, shall be clean.

72 **6.1.3 Replacement:**

73 Prior to noise measurements, the appliance, equipped in accordance with Subclause 6.1.1,
74 shall have been in operation for a total period of at least 2 h for running-in at the highest
75 speed setting with the maximum heating switched on for normal permanent use.

76 Oscillating function if available shall be switched on.

77 During the running-in procedure air filters, if any, shall be removed, if possible. If filters
78 remain in the appliances during this running-in period, they shall be cleaned or renewed after
79 this period.

80 **6.1.4 Replacement:**

81 Immediately before each series of noise measurements, the appliance equipped in
82 accordance with Subclause 6.1.1 shall be operated for stabilizing at the highest speed setting
83 and maximum heating switched on for normal permanent use for 5 min.

84 **6.2 Supply of electric energy and of water or gas**

85 **6.2.1 Modification:**

86 The voltage tolerance shall be $\pm 0,5$ %.

87 **6.2.2** Not applicable

88 **6.2.3 Replacement:**

89 The appliance shall be operated with the heating elements switched on.

90 Special attention is required to be given to the possible effect of the temperature rise on the
91 acoustical behaviour of the test room.

92 **6.2.4** Not applicable

93 **6.4 Loading and operating of appliances during tests**

94 **6.4.2 Replacement:**

95 The appliance shall be equipped according to 6.1.1.

96 The noise emission shall be determined with the appliance at the highest speed setting and
97 maximum heating for normal permanent use. Oscillating function, if any, shall be switched on.

98 NOTE Other possible speed settings (minimum heat output, boost position,...) can be measured in addition. The
99 respective noise levels should be linked to the relevant heat output.

100 Appropriate adjustment of air intake or exhaust openings shall be done taking into account
101 manufacturer's instructions if any, or otherwise selecting the configuration that gives the
102 highest noise emission.

103 **6.4.3** Not applicable

104 **6.5 Location and mounting of appliances**

105 **6.5.2 Addition:**