

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-11: Particular requirements for electrically operated food preparation appliances

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English version

**Household and similar electrical appliances
Test code for the determination of airborne acoustical noise
Part 2-11: Particular requirements for electrically operated food
preparation appliances
(IEC 60704-2-11:1998)**

Appareils électrodomestiques et analogues - Code d'essai pour la détermination du bruit aérien
Partie 2-11: Règles particulières pour les appareils électriques destinés à la préparation de la nourriture
(CEI 60704-2-11:1998)

Prüfvorschrift für die Bestimmung der Luftschallemission von elektrischen Geräten für den Hausgebrauch und ähnliche Zwecke
Teil 2-11: Besondere Anforderungen für elektrisch betriebene Speisezubereitungsgeräte
(IEC 60704-2-11:1998)

This European Standard was approved by CENELEC on 1999-01-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 59G/86/FDIS, future edition 1 of IEC 60704-2-11, prepared by SC 59G, Small kitchen 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 60704-2-11 on 1999-01-01.

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) 1999-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-10-01

This part 2 of EN 60704 is to be used in conjunction with EN 60704-1:1997, *Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 1: General requirements*.

This part 2 supplements or modifies the corresponding clauses of EN 60704-1. Where a particular clause or subclause of part 1 is not mentioned in this part 2, that clause or subclause applies as far as is reasonable. Where this part 2 states "addition", "modification" or "replacement", the relevant text of part 1 is to be adapted accordingly.

Subclauses and figures which are additional to those in part 1 are numbered starting from 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative. Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60704-2-11:1998 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

The measuring conditions specified in this Part 2-11 simulate, as far as possible, the practical use of electrically-operated food preparation appliances. Most tests are carried out without load, to avoid the unsteadiness of the noise and to ensure a good repeatability and a good reproducibility.

It is recommended to consider noise data as part of performance data.

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 2-11: Particular requirements for electrically-operated
food preparation appliances**

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1 Scope

Replacement:

This standard applies to electrically-operated food preparation appliances, either in the form of separate machines with a single function or in the form of multi-purpose machines with appropriate tools or attachments for several functions. These machines are intended for placing on counters, tables, work tops or sinks, for wall-mounting, for building-in, or for hand-held use, supplied from mains or from batteries and able to ensure the functions described in clause 4 of IEC 60619.

Limitations for the use of this test code are given in the scope of IEC 60704-1.

1.2 Object

Addition:

The object of this test code is to describe the procedure for the measurement of noise emitted by electrically-operated food preparation appliances.

For the function defined in clause 20 of IEC 60619 (coffee milling and grinding), this test code is only applicable for comparative tests.

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

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

2 Normative references

[SIST EN 60704-2-11:2002](https://standards.iteh.ai/catalog/standards/sist/0493f4b4-3262-43dd-90e5-617032961e/cis-pr-60704-2-11-2002)

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This clause of Part 1 is applicable except as follows:

Not applicable:

ISO 3743-1:1994, *Acoustics – Determination of sound power levels of noise sources – Engineering methods for small, movable sources in reverberant fields – Part 1: Comparison method for hard-walled test rooms*

Addition:

IEC 60619:1993, *Electrically operated food preparation appliances – Methods for measuring the performance*

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

Addition:

3.101

standard container

a container with sides of 500 mm \pm 10 mm and a height of 200 mm \pm 10 mm, the structure being rigid enough to avoid structure-borne noise

3.102

standard test loads for noise measurement

for the function defined in clause 12 of IEC 60619 (blending/pureeing), the standard test load is water at the ambient temperature $t = 20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, filling the standard container with a depth of 150 mm + 5 mm

For the function defined in clause 19 of IEC 60619 (citrus juice extraction), the standard test load is a force of 30 N $\begin{smallmatrix} +5 \\ -0 \end{smallmatrix}$ N exerted on the cone without, if possible, any perturbation of the rotating speed of the appliance and of the acoustical field

NOTE – An example of adequate load is shown in figure 102.

For the function defined in clause 20 of IEC 60619 (coffee milling and grinding), this test code is only applicable for comparative tests; in this case, the standard test load is roasted beans of coffee available on the national market, preconditioned for 24 h in the test room, with the climatic conditions given in 6.3.

4 Measurement methods and acoustical environments

This clause of Part 1 is applicable except as follows:

4.3 *Modification:*

The comparison method described in ISO 3743-1 is not applicable.

NOTE – Measurement according to ISO 3743-1 is under consideration.

5 Instrumentation

This clause of Part 1 is applicable.

6 Operation and location of appliances under test

This clause of Part 1 is applicable except as follows:

6.1 Equipping and pre-conditioning of appliances

6.1.1 *Addition:*

For the blending/pureeing function, the test load is contained in the standard container defined in 3.101, except where the appliance cannot operate in the way it is intended for. If the standard container cannot be used, the bowl supplied by the manufacturer shall be used, filled at the maximum level defined by the manufacturer. The water shall be at the ambient temperature $t = 20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

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6.1.3 Replacement:

Prior to noise measurements, the appliance shall have been in operation for a total period of at least 10 min for running-in, under the same conditions as the noise measurement, except for the milling and grinding functions where the running-in period is operated without load. This total period of running-in can be reduced if it is verified that this does not affect the noise emission of the appliance under test.

If this procedure may damage the appliance, proper precautions have to be taken.

NOTE – If the appliance under test is delivered with several accessories, each accessory should be in operation for a suitable period of running.

6.1.4 Replacement:

Immediately before each series of measurements, the appliance, equipped as for the intended use, is operated during 1 min "on" (or less, if specified by the manufacturer), for stabilizing, at the highest speed allowed for the function, and 2 min "off" (or more, if specified by the manufacturer).

For the milling and grinding functions, the appliance shall be in operation without load.

6.2 Supply of electric energy and of water or gas

6.2.2 Addition:

Rechargeable food preparation appliances are measured with fully charged batteries and disconnected from the external power source.

6.4 Loading and operating of appliances

6.4.2 Replacement:

The determination of noise emission shall be carried out for each of the accessories supplied, with the appliance at the maximum speed recommended by the user instructions for the accessory under test.

If the user instructions do not specify this maximum speed, the appliance shall be operated at its maximum obtainable speed.

NOTE – The maximum speed may be attainable

- by the maximum speed stable position of a selector or command switch; or
- by a continuous user action on the selector or command switch; or
- by activating a separate stable or unstable command switch, usually called "Turbo", "Booster", "Plus" or similar.

For those appliances which run under pressure from the hand of the user, it is common to use a tape to simulate this hand pressure. Care shall be taken to ensure that these means do not change the sound output of the appliance under test.

Except for the accessories designed for the functions of blending/pureeing, of citrus juice extraction and of coffee milling and grinding, where the acoustical test is carried out with the standard test load defined in 3.102, the acoustical test is carried out without load.

For the function of blending/pureeing, the purpose of the measurement is to measure the noise produced by the appliance, excluding noise produced by water turbulence in the water-tank. For the test, the standard container, as defined in 3.101 shall be used, where the appliance is installed vertically and offset from the centre of the container to a position where the surface of the water will show a minimum of waves. The bottom of the appliance shall be at a distance of 50 mm ± 5 mm from the bottom of the tank.