

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Household and similar electrical appliances – Test code for the determination of airborne acoustical noise –**

**Part 2-10: Particular requirements for electric cooking ranges, ovens, grills, microwave ovens and any combination of these**

**Appareils électrodomestiques et analogues – Code d'essai pour la détermination du bruit aérien –**

**Partie 2-10: Règles particulières pour les cuisinières, les fours, les grils, les fours à micro-ondes et toute combinaison de ces appareils**



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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

### Part 2-10: Particular requirements for electric cooking ranges, ovens, grills, microwave ovens and any combination of these

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International Standard IEC 60704-2-10 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 published in 2004 and constitutes an adaptation to the third edition of IEC 60704-1(2010).

Compared to the first edition (2004) of this Part 2-10, this second edition doesn't contain the description of an appropriate test enclosure which has now been incorporated in Part 1.

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

FDIS	Report on voting
59K/224/FDIS	59K/228/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 2-10 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 When "Part 1" is mentioned in this standard, it refers to IEC 60704-1.

This Part 2-10 supplements or modifies the corresponding clauses in IEC 60704-1, so as to establish the test code for electric cooking ranges, ovens, grills, microwave ovens and any combination of these. When a particular subclause of Part 1 is not mentioned in this Part 2-10, that subclause is applicable as far as reasonable. Where this Part 2-10 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.

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 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
- amended.

## INTRODUCTION

The measuring conditions specified in this Part 2-10 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 electric cooking ranges, ovens, grills, microwave ovens and any combination of these.

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 appliances.

Compared to the first edition (2004) of this Part 2-10, the second edition doesn't contain the description of an appropriate test enclosure which has now been incorporated in Part 1.

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 2-10: Particular requirements for electric cooking ranges, ovens, grills, microwave ovens and any combination of these

#### 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 electric cooking ranges, ovens, grills, microwave ovens and any combination of these for household and similar use.

NOTE 101 These particular requirements do not apply to hobs due to lack of standardised load (pans) representative of normal use and ensuring a good repeatability of tests. For these applications, the loading and operating conditions are under consideration.

This standard does not apply to appliances or parts of appliances that use gas energy.

###### 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 electric cooking ranges, ovens, grills, microwave ovens and any combination of these.

###### 1.1.3 Size of the 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 appliance under test fulfils the requirements specified in 1.3 of ISO 3743-1:1994 and ISO 3743-2:1994.

#### 1.2 Object

*Addition:*

The methods described are specified for appliances without an operator present.

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

NOTE 101 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)
1,0 – 1,7	1,4 – 2,0	2,0

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

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 except as follows.

*Addition:*

### 3.101

#### **cooking range**

appliance having a hob and at least one oven; it may incorporate a grill

[IEC 60350:1999, definition 3.1]

### 3.102

#### **hob**

appliance or part of an appliance which incorporates one or more cooking zones

[IEC 60350:1999, definition 3.2]

NOTE 101 A hob is also known as a cook top.