

**Majapidamismasinad ja nende sarnased elektriseadmed. Katsekoodeks õhu kaudu edastatava akustilise müra määramiseks. Osa 2-10: Erinõuded elektrilistele pliitidele, praeahjudele, grillidele, mikrolaineahjudele ja nimetatud seadmete kombinatsioonidele**

**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**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 60704-2-10:2011 sisaldab Euroopa standardi EN 60704-2-10:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 60704-2-10:2011 consists of the English text of the European standard EN 60704-2-10:2011.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.12.2011.	Date of Availability of the European standard is 16.12.2011.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English version

**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  
(IEC 60704-2-10:2011)**

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  
(CEI 60704-2-10:2011)

Elektrische Geräte für den Hausgebrauch  
und ähnliche Zwecke -  
Prüfvorschrift für die Bestimmung der  
Luftschallemission -  
Teil 2-10: Besondere Anforderungen für  
elektrische Herde, Backöfen, Grills,  
Mikrowellengeräte und alle Kombinationen  
davon  
(IEC 60704-2-10:2011)

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**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/224/FDIS, future edition 2 of IEC 60704-2-10, 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 approved by CENELEC as EN 60704-2-10:2011.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-08-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-11-01

This document supersedes EN 60704-2-10:2004.

Compared to EN 60704-2-10:2004, EN 60704-2-10:2011 doesn't contain the description of an appropriate test enclosure which has now been incorporated in Part 1.

EN 60704-2-10:2011 is intended to be used in conjunction with EN 60704-1:2010, *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 2-10 supplements or modifies the corresponding clauses in EN 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.

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

## Endorsement notice

The text of the International Standard IEC 60704-2-10:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- |                |  |
|----------------|--|
| IEC 60350:1999 | NOTE Harmonized as EN 60350:1999 (not modified). |
| CISPR 11:2009  | NOTE Harmonized as EN 55011:2009 (modified).     |

## **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** to Annex ZA of EN 60704-1:2010:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	2003

## 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.