



**SLOVENSKI STANDARD**  
**SIST EN 60705:2012/A1:2014**  
**01-november-2014**

---

**Gospodinske mikrovalovne pečice - Metode za merjenje lastnosti - Dopolnilo A1**

Household microwave ovens - Methods for measuring performance

Mikrowellengeräte für den Hausgebrauch und ähnliche Zwecke - Verfahren zur Messung der Gebrauchstauglichkeit

Fours à micro-ondes à usage domestique - Méthodes de mesure de l'aptitude à la fonction

**ITeH STANDARD PREVIEW**  
**(standards.iteh.ai)**

**Ta slovenski standard je istoveten z: EN 60705:2012/A1:2014**

SIST EN 60705:2012/A1:2014  
<https://standards.iteh.ai/catalog/standards/sist/e46d1e2d-6b1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

---

**ICS:**

97.040.20

Štedilniki, delovni pulti,  
pečice in podobni aparati

Cooking ranges, working  
tables, ovens and similar  
appliances

**SIST EN 60705:2012/A1:2014**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60705:2012/A1:2014](https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014)

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

EUROPEAN STANDARD

**EN 60705:2012/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2014

ICS 97.040.20

English Version

## Household microwave ovens - Methods for measuring performance (IEC 60705:2010/A1:2014)

Fours à micro-ondes à usage domestique - Méthodes de mesure de l'aptitude à la fonction  
(CEI 60705:2010/A1:2014)

Mikrowellengeräte für den Hausgebrauch und ähnliche Zwecke - Verfahren zur Messung der Gebrauchstauglichkeit  
(IEC 60705:2010/A1:2014)

This amendment A1 modifies the European Standard EN 60705:2012; it was approved by CENELEC on 2014-08-04. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

**(standards.iteh.ai)**

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

[SIST EN 60705:2012/A1:2014](https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-60705-2012/a1-2014)

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-60705-2012/a1-2014>

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of document 59K/252/FDIS, future IEC 60705:2010/A1, prepared by SC 59K "Ovens and microwave ovens, cooking ranges and similar appliances" of IEC/TC 59: "Performance of household and similar electrical appliances." was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60705:2012/A1:2014.

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) 2015-05-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-08-04

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 60705:2010/A1:2014, was approved by CENELEC as a European Standard without any modification.

[SIST EN 60705:2012/A1:2014](https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014)

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

**Addition to Annex ZA of EN 60705:2012:**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60350-1	2011	Household electric cooking appliances -- Part 1: Ranges, ovens, steam ovens and grills - Methods for measuring performance	EN 60350-1	2013
IEC 60584-2	-	Thermocouples -- Part 2: Tolerances	EN 60584-2	-
IEC 62301	2011	Household electrical appliances - Measurement of standby power	EN 50564	2011

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60705:2012/A1:2014

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60705:2012/A1:2014](https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014)

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>



IEC 60705

Edition 4.0 2014-06

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



AMENDMENT 1  
AMENDEMENT 1

Household microwave ovens – Methods for measuring performance

Fours à micro-ondes à usage domestique – Méthodes de mesure de l'aptitude à la fonction

[SIST EN 60705:2012/A1:2014](https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014)

<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

S

ICS 97.040.20

ISBN 978-2-8322-1662-0

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## FOREWORD

This amendment 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.

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

FDIS	Report on voting
59K/252/FDIS	59K/255/RVD

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

The committee has decided that the contents of this amendment and the base 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.

ITIH STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 60705:2012/A1:2014

**IMPORTANT – The colour inside logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## INTRODUCTION to Amendment 1

This amendment includes the following significant technical changes:

- the usable volume is renamed to calculated volume and the measurement method for the calculated volume is revised (see 7.2), which is in accordance with IEC 60350-1;
- new definitions for **microwave function**, **combination microwave function**, **set to off mode**, **set to standby mode**, **cooling down period** and **food support** in Clause 3;
- a method for measuring the energy consumption of the **microwave function** in Clause 14;
- more precise requirements for instruments and measurements in Table 2;
- additional product specific requirements for measuring the energy consumption of low power modes in Clause 15;
- a method for measuring the energy consumption for the **cooling down period** in Annex F (informative).



## FOREWORD

Add, after the existing paragraph starting with "Words in **bold...**", the following new paragraph:

This standard contains an attached file in the form of an Excel®<sup>1</sup> 97-2003 data sheet program. This file is intended to be used as a complement and does not form an integral part of the standard.

## 1 Scope

Replace, in Note 1, the dashed item "ovens which cannot accept a load having a diameter of  $\geq 200$  mm" with the following dashed item:

- microwave ovens which cannot accept a load having a diameter of  $\geq 200$  mm or a height of  $\geq 120$  mm;

## 2 Normative references

Add the following references:

IEC 60350-1:2011, *Household electric cooking appliances – Part 1: Ranges, ovens, steam ovens and grills – Methods for measuring performance*

IEC 60584-2, *Thermocouples – Part 2: Tolerances*

IEC 62301:2011, *Household electrical appliances – Measurement of standby power*

## 3 Terms and definitions

SIST EN 60705:2012/A1:2014  
<https://standards.iteh.ai/catalog/standards/sist/c4bd1c2d-bb1f-47a5-b5ce-5e5e92765e2b/sist-en-60705-2012-a1-2014>

### 3.1 microwave oven

Delete Note 1 and renumber Note 2 as Note 1.

### 3.2 combination microwave oven

Add the following new note:

NOTE Energy transfer by steam is included in the term thermal heat.

Add, after 3.4, the following new terms and definitions:

### 3.5 microwave function

heat transfer exclusively by electromagnetic energy in the ISM frequency band of 2 450 MHz

### 3.6 combination microwave function

heat transfer by electromagnetic energy simultaneously or sequentially with thermal heat

NOTE Thermal heat can be a conventional heating function, a forced air circulation function, a hot steam function or steam function. These functions are defined in 3.12 to 3.15 of IEC 60350-1:2011.

<sup>1</sup> Excel® is the trademark of a product supplied by Microsoft®. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

**3.7****set to off mode**

action where the product is switched off using appliance controls or switches that are accessible and intended for operation by the user during normal use to attain the lowest power consumption that may persist for an indefinite time while connected to a main power source and used in accordance with the manufacturer's instructions

NOTE 1 All actions required to **set to off mode** like for example empty the water tank, remove food, close the door, etc. have to be taken.

NOTE 2 See 3.5 of IEC 62301:2011 for the definition of "off mode".

**3.8****set to standby mode**

action where the product is switched to standby using appliance controls or switches that are accessible and intended for operation by the user during normal use to attain the lowest power consumption that may persist for an indefinite time while connected to a main power source and used in accordance with the manufacturer's instructions

NOTE See 3.6 of IEC 62301:2011 for the definition of "standby mode".

**3.9****cooling down period**

unstable condition persisting after completion of the active mode and the appliance is **set to off mode** where the power consumption may change without any intervention by the user

**3.10****food support**

horizontal support in the cavity on which the load is placed

NOTE If the appliance is fitted with a turntable, the turntable is the **food support**. The **food support** can also be a shelf or a reciprocating tray. If recommended by manufacturer's instruction also the cavity bottom can be the **food support**.

**4.1 According to type**

*Add, after the second dashed item, before the sentence "The type of oven shall be stated in the report" the following new paragraphs and new note:*

The manufacturers shall define the primary cooking function of the appliance, **microwave function** or thermal heat. The primary cooking function has to be measured with an existing method according to energy consumption.

If the primary cooking function is declared as a **microwave function** IEC 60705 shall be applied for energy consumption measurement. If the primary cooking function is declared as a thermal heat IEC 60350-1 shall be applied for energy consumption measurement.

NOTE There is currently no measurement method for the energy consumption for grilling and steam functions.

**4.2 According to characteristics**

*Replace the existing second dashed item by the following new dashed items:*

- Dimensions of shelves
- Moved **food support**, e.g. reciprocating tray, turntable
- Possible thermal heating modes (grilling, hot air, steam function etc.).

**5 List of measurements**

*Replace Table 1 by the following table:*

Table 1 – List of measurements

Item of measurement	Clause or subclause	Reproducibility	Microwave ovens <sup>a</sup>	Combination microwave ovens
External dimensions	7.1	Yes	*	*
Usable cavity dimensions	7.2	Yes	*	*
Calculated cavity volume	7.3	Yes	*	*
Microwave power output	8	Yes	*	
Efficiency	9	Yes	*	
Square tank	11.1	Yes	*	
Multiple cup	11.2	Yes	*	
Heating beverages	12.1	Yes	*	
Heating simulated food	12.2	Yes	*	
Egg custard	13.3.1	No	*	
Sponge cake	13.3.2	No	*	
Meatloaf	13.3.3	No	*	
Potato gratin	13.3.4	No		*
Cake	13.3.5	No		*
Chicken	13.3.6	No		*
Meat defrosting	13.3	No	*	
Energy consumption for the microwave function	14	Yes	*	
Consumption measurement of low power modes	15	Yes	*	*
* Test is applicable.				
<sup>a</sup> Except for the tests of 11.1, these tests are also applicable to <b>combination microwave ovens</b> when operated in the microwave only mode.				

Add, under Table 1, the following new paragraph:

The methods described in Clauses 8 and 14 are only applicable for appliances with **microwave function**. If a combination microwave oven does not provide a **microwave function** the tests are not applicable. The energy consumption measurement cannot be carried out with **combined microwave function**.

## 6.1 General

Replace the existing second paragraph by the following:

When a metal **food support** is provided and used for the measurements, the load position and the corresponding shape of the metal **food support** shall be reported.

If not otherwise specified the **food support** is placed in the cavity in its lowest position.

## 6.2 Supply voltage

Replace the existing paragraph and note by the following new paragraphs and notes: