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KAUBANDUSLIKELE-MIKROLAINESEADMETELE

Household and similar electrical appliances - Safety -  
Part 2-110: Particular requirements for commercial  
microwave appliances with insertion or contacting  
applicators

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60335-2-110:2021 sisaldab Euroopa standardi EN IEC 60335-2-110:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60335-2-110:2021 consists of the English text of the European standard EN IEC 60335-2-110:2021.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.10.2021.	Date of Availability of the European standard is 01.10.2021.
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English Version

**Household and similar electrical appliances - Safety - Part 2-110:  
Particular requirements for commercial microwave appliances  
with insertion or contacting applicators  
(IEC 60335-2-110:2013)**

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-110: Exigences particulières pour les appareils à  
micro-ondes à usage commercial avec applicateurs par  
insertion ou par contact  
(IEC 60335-2-110:2013)

To be completed  
(IEC 60335-2-110:2013)

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## European foreword

This document EN IEC 60335-2-110:2021 consists of the text of IEC 60335-2-110:2013 prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

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) 2022-04-01
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60335-2-25	NOTE	Harmonized as EN 60335-2-25
IEC 60519-6	NOTE	Harmonized as EN 60519-6
IEC 60601-1	NOTE	Harmonized as EN 60601-1

## Annex ZC (normative)

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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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*The Annex ZC of Part 1 applies, except as follows:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Addition</i>				
IEC 60335-2-90	-	Household and similar electrical appliances - Safety - Part 2-90: Particular requirements for commercial microwave ovens	EN IEC 60335-2-90	2021

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –  
Part 2-110: Particular requirements for commercial microwave appliances with  
insertion or contacting applicators**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-110: Exigences particulières pour les appareils à micro-ondes à usage  
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IEC 60335-2-110

Edition 1.0 2013-09

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –  
Part 2-110: Particular requirements for commercial microwave appliances with  
insertion or contacting applicators**

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Partie 2-110: Exigences particulières pour les appareils à micro-ondes à usage  
commercial avec applicateurs par insertion ou par contact**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-110: Particular requirements for commercial  
microwave appliances with insertion or contacting applicators**

## FOREWORD

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This part of International Standard IEC 60335 has been prepared by subcommittee SC61B: Safety of microwave appliances for household and commercial use, of IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61B/477/FDIS	61B/483/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 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fifth edition (2010) of that standard.

NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for commercial microwave appliances with insertion or contacting applicators.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- 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.

NOTE 3 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in **bold**.

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

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- withdrawn,
- replaced by a revised edition, or
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It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

## INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-110: Particular requirements for commercial microwave appliances with insertion or contacting applicators

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of microwave appliances intended for commercial use, their **rated voltage** being not more than 250 V for single-phase appliances connected between one phase and neutral and 480 V for other appliances.

In general, this standard does not take into account

- persons (including children) whose
  - physical, sensory or mental capabilities; or
  - lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

Appliances covered by this standard incorporate an open-ended **applicator** (as example an overview is given in Figure 103) for treatment of the **load**. They are divided into three types:

- with **insertion applicator**, typically for moisture removal by insertion into holes in floors, walls or ceilings (an example is given in Figure 106);
- with **large area contacting applicator**, typically for drying of floors, walls or ceilings (examples are given in Figure 104 and Figure 105);
- with **small area contacting applicator**, typically for paint removal and spot-heating (an example is given in Figure 107).

NOTE 101 Appliances with **insertion applicator** and with **large area contacting applicator** are **portable appliances**. Appliances with **small area contacting applicator** are **handheld appliances**.

NOTE 102 Appliances that use non-electrical energy are within the scope of this standard. The microwave-related portion is considered **motor-operated**.

NOTE 103 Attention is drawn to the fact that

- these appliances can radiate microwave energy outside a **restricted area** where they are used. The additional requirements specified by national authorities responsible for the protection for non-ionising radiation that the limit of power flux density is 10 W/m<sup>2</sup>, averaged over any time period of 6 min, outside this **restricted area** is taken into consideration in this standard;
- these appliances are intended to exclusively treat the **load in normal operation**, i.e. this standard does not apply to appliances or systems employing free space microwave propagation;
- for appliances intended to be used in tropical countries, special requirements can be necessary;
- in many countries, additional requirements are specified by the national health authorities, and national authorities responsible for the protection of labour and for non-ionising radiation protection.

NOTE 104 This standard does not apply to

- household microwave ovens, including combination microwave ovens (IEC 60335-2-25);
- commercial microwave ovens with a cavity door, commercial combination microwave ovens with a cavity door and commercial microwave ovens without a cavity door and with transportation means (IEC 60335-2-90);
- industrial microwave heating equipment (IEC 60519-6);
- appliances for medical purposes (IEC 60601-1);