

INTERNATIONAL STANDARD

IEC 60335-2-75

Edition 2.1

2005-01

Edition 2:2002 consolidated with amendment 1:2004

Household and similar electrical appliances – Safety –

Part 2-75: Particular requirements for commercial dispensing appliances and vending machines

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-75: Particular requirements for commercial dispensing appliances
and vending machines**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This part of International Standard IEC 60335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This consolidated version of IEC 60335-2-75 is based on the second edition (2002) [documents 61/2224/FDIS and 61/2299/RVD] and its amendment 1 (2004) [documents 61/2743/FDIS and 61/2795/RVD].

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

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 fourth edition (2001) 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 electric commercial dispensing appliances and vending machines.

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 the base publication and its amendments will remain unchanged until the maintenance result 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.

The following differences exist in the countries indicated below.

- 6.1: Class 0I is allowed for appliances used indoors having a rated voltage not exceeding 150 V (Japan).
- 11.7: The number of vending cycles is specified to determine the duration of the test (USA).
- 13.2: The leakage current limits are different (Japan).
- 16.2: The leakage current limits are different (Japan).
- 20.1: The test is different (USA).
- Clause 21: Metal enclosures are not subjected to the test (USA).
- 22.7: A pressure relief device shall operate before the rated pressure of the vessel has been exceeded (USA).
- 22.7: The test pressure is five times rated pressure (USA).
- 24.103: Self-resetting thermal cut-outs are allowed if they have been evaluated for reliability (USA).
- 25.7: Ordinary polyvinyl chloride sheathed supply cords are allowed (Australia and New Zealand).
- 25.7: Lighter supply cords are allowed (USA).
- 27.2: The addition is not applicable (USA).
- Annex AA: Elastomeric parts are evaluated differently (USA).

A bilingual version of this publication may be issued at a later date.

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.

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.

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 that 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.

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-75: Particular requirements for commercial dispensing appliances and vending machines

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric commercial **dispensing appliances** and **vending machines** for preparation or delivery of food, drinks and consumer products, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 101 Examples of appliances that are within the scope of this standard are

- bulk tea or coffee brewing machines;
- cigarette **vending machines**;
- coffee grinders
- commercial liquid heaters;
- espresso coffee appliances;
- hot and cold beverage **vending machines**;
- hot water **dispensers**;
- ice cream and whipped cream **dispensers**;
- ice **dispensers**;
- newspaper, audio or video tape or disc **vending machines**;
- packaged food and drink **vending machines**;
- refrigerated merchandisers

Appliances may have more than one function.

NOTE 102 Other standards may be applicable for some functions such as

- refrigeration (IEC 60335-2-24);
- heating by microwaves (IEC 60335-2-25);
- coffee grinding (IEC 60335-2-64).

This standard also deals with the hygiene aspects of appliances.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by users and **maintenance persons**. However, in general, it does not take into account young children playing with the appliance.

NOTE 103 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries, additional requirements for appliances incorporating pressure vessels are specified;
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 104 This standard does not apply to

- appliances intended to be used exclusively for household purposes;
- appliances intended to be used exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- commercial electric boiling pans (IEC 60335-2-47);

- commercial electric bains-marie (IEC 60335-2-50);
- amusement machines and personal service machines (IEC 60335-2-82);
- appliances solely used for dispensing money;
- display cabinets;
- appliances incorporating electrode-type water heaters.

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-34, *Safety of household and similar electrical appliances – Part 2-34: Particular requirements for motor-compressors*

ISO 1817:1999, *Rubber, vulcanized – Determination of the effect of liquids*

3 Definitions

This clause of Part 1 is applicable except as follows.

3.1.9 Replacement:

normal operation

operation of the appliance under the following conditions

The appliance is operated in the **standby mode** until steady conditions are established and then under the most unfavourable dispensing procedure. The appliance is refilled when necessary in accordance with the instructions for use, or the **instructions for maintenance**, and the next operating period started as soon as possible.

Lids and covers of **appliances of the professional type** and of **appliances of the supervised type** are placed in their intended positions.

3.6.2 Replacement:

detachable part

part that can be removed without the aid of a **tool**, a part that is removed in accordance with the instructions for use or the **instructions for maintenance**, even if a **tool** or **access key** is needed for removal, or a part that does not fulfill the test of 22.11

NOTE 101 If a part has to be removed for installation purposes, this part is not considered to be detachable even if the instructions state that it is to be removed.

NOTE 102 A part that can be opened is considered to be a part that can be removed.

3.7.3 Replacement:

thermal cut-out

device that during abnormal operation limits the temperature of the controlled part by automatically opening the circuit, or reducing the current, and is constructed so that its setting cannot be altered by the user or the **maintenance person**

3.8.5 Replacement:

maintenance operation

operation performed in the **maintenance area** or **user area**, such as preparing the appliance for new products or new operating methods, cleaning, price changing, replenishing, coin collecting and setting of controls or similar operations

NOTE 101 **Maintenance operation** does not include operations performed in the **service area**.

3.101**rated pressure**

pressure assigned to the pressurized parts of the appliance by the manufacturer

3.102**standby mode**

appliance filled as intended with ingredients or products, energized and ready for use, cash boxes and overflow containers being empty

3.103**access key**

key or other means that gives access to the **maintenance area** but does not give access to the **service area**

NOTE "Other means" includes a **tool** or operation by codes or signals produced by optical or electromagnetic sources.

3.104**override key**

key or other means that is used to render an interlock inoperative

3.105**dispensing appliance**

appliance intended to deliver or make available food, drinks or other consumer products

NOTE 1 The appliance may also prepare the products.

NOTE 2 The dispensing operation may be initiated manually or by means such as coins or credit cards.

3.106**vending machine**

dispensing appliance that is operated by coins, credit cards or other means of payment

3.107**instructions for maintenance**

instructions explaining how to carry out cleaning, replenishing, coin collecting, setting of controls and similar operations

3.108**maintenance person**

person who maintains the appliance in accordance with the **instructions for maintenance**

3.109**user area**

area where access is gained without the use of an **access key** or a **tool**

NOTE 1 The **user area** of **appliances of the supervised type** is determined with **detachable parts** and other movable parts, such as doors and lids, in position as in normal use.

NOTE 2 **Appliances of the professional type** have no **user area**.

3.110**maintenance area**

area where access can only be gained by the use of an **access key**

3.111**service area**

area where access cannot be gained by the use of an **access key** alone

3.112

appliance of the professional type

dispensing appliance that is only intended to be used by trained personnel such as kitchen or bar staff

3.113

appliance of the supervised type

dispensing appliance that is intended to be maintained by trained personnel but may be used by other persons in a location where its use is overseen

NOTE Dining rooms in restaurants are examples of such locations.

3.114

potentially hazardous food

food which includes natural or synthetic ingredients that are capable of supporting rapid and progressive growth of pathogenic or toxin producing micro-organisms

NOTE 1 Examples of **potentially hazardous food** are milk, eggs, meat, poultry, shellfish, crustacean, and their products, either raw or heat treated, as well as food of plant origin that is ready for consumption without the need for any further preparation or processing.

NOTE 2 Food may become **potentially hazardous food** during processing, for example when powdered ingredients are mixed with water or when food is stored at incorrect temperature.

NOTE 3 **Potentially hazardous food** does not include:

- candy, nuts, gum and similar confectionery;
- cookies, crackers and similar bakery products;
- instant-coffee, chocolate, cocoa and sugar;
- food having a pH level of not greater than 4,6 or a water activity (A_w) value not greater than 0,85 at 25 °C;
- food maintained at a temperature not exceeding 5 °C for periods specified by the producer, but for not more than 5 days;
- food maintained at a temperatures above 65 °C or below -18 °C;
- food in hermetically sealed containers;
- food that has been processed to prevent spoilage.

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.2 Addition:

NOTE 101 If the test of 15.102 has to be carried out, three additional samples are required.

5.6 Replacement:

*Controls or switching devices in the **user area** are adjusted to the most unfavourable setting.*

*Controls, switching devices or other parts in the **maintenance area** are adjusted to the most unfavourable setting within limits stated in the **instructions for maintenance**.*

NOTE 101 Controls or switching devices in the **service area** are not adjusted.