
Gospodinjski in podobni električni aparati - Varnost - 2-24. del: Posebne zahteve za hladilnike, zamrzovalnike in aparate za pripravo sladoleda in ledu (IEC 60335-2-24:2002)

Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers

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EUROPEAN STANDARD

EN 60335-2-24

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2003

ICS 97.040.30

Supersedes EN 60335-2-24:2000

English version

**Household and similar electrical appliances -
Safety
Part 2-24: Particular requirements for refrigerating appliances,
ice-cream appliances and ice-makers
(IEC 60335-2-24:2002)**

Appareils électrodomestiques
et analogues -
Sécurité
Partie 2-24: Règles particulières
pour les appareils de réfrigération,
les appareils de glaces à la crème
et les fabriques de glace
(CEI 60335-2-24:2002)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-24: Besondere Anforderungen
für Kühl-/Gefriergeräte,
Speiseeis- und Eisbereiter
(IEC 60335-2-24:2002)

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This European Standard was approved by CENELEC on 2003-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 Central Secretariat or to any CENELEC member.

This European Standard 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60335-2-24:2002 (61C/213/FDIS), prepared by SC 61C of the IEC Technical Committee 61, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60335-2-24 on 2003-03-01.

This European Standard replaces EN 60335-2-24:2000 + corrigendum July 2001.

The following dates are applicable:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-03-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2007-08-01

This part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for electric refrigerating appliances, ice-cream appliances and ice-makers.

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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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

National deviations from this European Standard are listed in Annex ZB and are in addition to those in EN 60335-1.

p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 98/37/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-24:2002 was approved by CENELEC as a European Standard without any modification.

p In the third dashed item of 7.1, delete the word "only".

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p Add:

Annex ZB (informative)

A-deviations

Addition:

Clause Deviation

7.12 **Denmark** (Danish Heavy Current Regulations, Section 6, Clause 801.471.2; Item 2 and 3)

The instructions for stationary Class I appliances for household use shall include the substance of the following:

This refrigerator (food freezer) shall be protected against indirect contact in accordance with the Heavy Current Regulations. This requirement also applies to refrigerators (food freezers) replacing an appliance, which was not protected against indirect contact.


The purpose of protection against indirect contact is to protect the user against electric shock in the event of a fault.

In homes built after April 1st, 1975, all socket-outlets in kitchens and possibly also in sculleries will provide protection against indirect contact.

In homes built before April 1st, 1975, protection against indirect contact is provided if an earth-leakage circuit-breaker (RCCB) having a rated tripping fault-current of 0,03 A is installed in the supply to the socket-outlet to which the refrigerator (food freezer) is to be connected.

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In both cases: <https://standards.iteh.ai/catalog/standards/sist/3d61471f-b03-4559-847d-b7991b4744c9/en-60335-2-24:2003>

- a three-pin plug shall be used if the socket-outlet is suitable for a three-pin plug, and the conductor having a green/yellow insulation shall be connected to the earthing terminal (marked  - 417-IEC-5019-a),
- a two-pin plug shall be used if the socket-outlet is suitable for a two-pin plug. The conductor having a green/yellow insulation shall be cut off inside the plug as close to the inlet opening as possible.

In all other cases, an authorised electrician should propose the most favourable way of establishing protection against indirect contact for the refrigerator (food freezer).

The Electricity Council recommends to establish the required protection by means of an earth-leakage circuit-breaker (RCCB) having a rated tripping fault-current of 0,03 A.

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079	Series	Electrical apparatus for explosive gas atmospheres	–	–
IEC 60079-4A	– ¹⁾	Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperatures – First supplement	–	–
IEC 60079-15	1987	Electrical apparatus for explosive gas atmospheres – Part 15: Electrical apparatus with type of protection 'n'	–	–
IEC 60079-20	1996	Electrical apparatus for explosive gas atmospheres – Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus	-	-
IEC 60335-2-34	– ¹⁾	Household and similar electrical appliances – Safety – Part 2-34: Particular requirements for motor compressors	EN 60335-2-34	2002 ²⁾
ISO 817	1974	Organic refrigerants – Number designation	–	–
ISO 3864	1984	Safety colours and safety signs	–	–
ISO 5149	1993	Mechanical refrigerating systems used for cooling and heating – Safety requirements	–	–

¹⁾ undated reference

²⁾ valid edition at date of issue

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INTERNATIONAL STANDARD

IEC 60335-2-24

Sixth edition
2002-10

Household and similar electrical appliances – Safety –

Part 2-24:

Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers (standards.iteh.ai)

*Appareils électrodomestiques et analogues –
Sécurité –*

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Partie 2-24:

*Règles particulières pour les appareils de réfrigération,
les appareils de glaces à la crème et les fabriques de glace*

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

FOREWORD	4
INTRODUCTION	6
1 Scope	7
2 Normative references	8
3 Definitions	8
4 General requirement	10
5 General conditions for the tests	10
6 Classification	12
7 Marking and instructions	12
8 Protection against access to live parts	15
9 Starting of motor-operated appliances	15
10 Power input and current	16
11 Heating	16
12 Void	19
13 Leakage current and electric strength at operating temperature	19
14 Transient overvoltages	20
15 Moisture resistance	20
16 Leakage current and electric strength	21
17 Overload protection of transformers and associated circuits	22
18 Endurance	22
19 Abnormal operation	22
20 Stability and mechanical hazards	24
21 Mechanical strength	26
22 Construction	27
23 Internal wiring	35
24 Components	35
25 Supply connection and external flexible cords	36
26 Terminals for external conductors	37
27 Provision for earthing	38
28 Screws and connections	38
29 Clearances, creepage distances and solid insulation	38
30 Resistance to heat and fire	38
31 Resistance to rusting	39
32 Radiation, toxicity and similar hazards	39
Annexes	42
Annex C Ageing test on motors	41
Annex D Alternative requirements for protected motor units	41
Annex AA (normative) Locked-rotor test of fan motors	43
Annex BB (informative) Method for accumulation of frost	45
Bibliography	48

Figure 101 – Apparatus for spillage test	40
Figure 102 – Detail of scratching tool tip	41
Figure AA.1 – Supply circuit for locked-rotor test of a single-phase fan motor	44
Figure BB.1 – Diagram of apparatus for water evaporation for accumulation of frost	46
Figure BB.2 – Apparatus for water evaporation and for accumulation of frost	47
Table 101 – Maximum temperatures for motor-compressors.....	18
Table 102 – Refrigerant flammability parameters.....	34

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(standards.iteh.ai)

SIST EN 60335-2-24:2003

<https://standards.iteh.ai/catalog/standards/sist/3d61471f-f303-4559-847d-cf13991ba47e/sist-en-60335-2-24-2003>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

This part of International Standard IEC 60335 has been prepared by subcommittee 61C: Household appliances for refrigeration, of IEC technical committee 61: Safety of household and similar electrical appliances.

This sixth edition cancels and replaces the fifth edition published in 2000. It constitutes a technical revision.

The text of this part of IEC 60335 is based on the following documents:

FDIS	Report on voting
61C/213/FDIS	61C/216/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 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 refrigerating appliances, ice-cream appliances and ice-makers.

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.

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- *test specifications: in italic type;*
- notes: in smaller 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 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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

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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.

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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of the following appliances, their **rated voltage** being not more than 250 V for single-phase appliances, 480 V for other appliances and 24 V d.c. for appliances when battery operated.

- **refrigerating appliances** for household and similar use;
- **ice-makers** incorporating a motor-compressor and **ice-makers** intended to be incorporated in frozen food storage compartments;
- **refrigerating appliances** and **ice-makers** for use in camping, touring caravans and boats for leisure purposes.

These appliances may be operated from the mains, from a separate battery or operated either from the mains or from a separate battery.

This standard also deals with the safety of **ice-cream appliances** intended for household use, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

It also deals with **compression-type appliances** for household and similar use, which use **flammable refrigerants**.

This standard does not cover features of the construction and operation of those **refrigerating appliances** which are dealt with in ISO standards.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.

NOTE 1 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 are specified by the national health authorities, the national authorities responsible for the protection of labour and the national authorities responsible for transportation.

NOTE 2 This standard does not apply to

- appliances intended to be used in the open air;
- appliances designed exclusively for industrial purposes;