

# INTERNATIONAL STANDARD

**CONSOLIDATED VERSION**

**Household and similar electrical appliances - Safety -  
Part 2-16: Particular requirements for food waste disposers**

Sample Document

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Household and similar electrical appliances - Safety -  
Part 2-16: Particular requirements for food waste disposers**

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 consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 60335-2-16 edition 6.1 contains the sixth edition (2022-10) [documents 61/6442/CDV and 61/6532A/RVC] and its amendment 1 (2026-08) [documents 61/7500/CDV and 61/7546A/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

IEC 60335-2-16 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 2002, Amendment 1:2008 and Amendment 2:2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) alignment with IEC 60335-1:2020;
- b) some notes have been converted to normative text (Clause 1, 22.104);
- c) addition of temperature rise limits for accessible surface (Clause 11).

The text of this International Standard is based on the following documents:

| Draft       | Report on voting |
|-------------|------------------|
| 61/6442/CDV | 61/6532A/RVC     |

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) 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: Particular requirements for food waste disposers.

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 document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](https://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

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.

The following differences exist in the countries indicated below.

- Clause 1: The installation of food waste disposers is not allowed (Netherlands).
- Clause 1: Permission to install food waste disposers depends upon the local authority responsible for the sewage system (Finland, Japan and Norway).
- 6.1: Class 0I appliances are allowed (Japan).

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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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

<https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

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 can 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 publications, basic safety publications and group safety publications 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.

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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.



## 1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric **food waste disposers** for household and similar purposes, their **rated voltage** being not more than 250 V including direct current (DC) supplied appliances and **battery-operated appliances**.

Appliances not intended for normal household use but that nevertheless possibly pose 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

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

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements can be necessary;
- 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, leading to restriction of or prohibition of the installation of **food waste disposers**.

This standard does not apply to

- portable food waste disposers;
- food waste disposers of the incinerator type;
- appliances intended exclusively for industrial or commercial 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).

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

## 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

### 3.1 Definitions relating to physical characteristics

#### 3.1.9 ~~Addition~~-Modification:

Replace the first paragraph with the following:

operation of the appliance under the following conditions:

The hopper is filled with 30 cubes of soft pinewood, the side of each cube having a length of 12 mm ± 2 mm. The appliance is operated with water having a temperature between 10 °C and 24 °C flowing through the appliance at a rate of 8 l/min. If the hopper cannot contain all the cubes at the same time, they are added as quickly as possible during the operation of the appliance.

### 3.5 Definitions relating to types of appliances

#### 3.5.101

##### **food waste disposer**

appliance installed in the outlet of a sink and used for reducing food waste to small particles that are discharged with water into the drainage system

## 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.

**5.101** *Except for Clause 10 and 20.102, the conditions of **normal operation** may be simulated by loading the appliance by means of a dynamometer or by blocking the outlet and maintaining the head of water at a constant level.*

## 6 Classification

This clause of Part 1 is applicable except as follows.

#### 6.1 *Modification:*

Replace the first paragraph with the following:

Appliances shall be **class I**, **class II** or **class III**.

#### 6.2 *Addition:*

**Food waste disposers** shall be at least IPX1.

## 7 Marking and instructions

This clause of Part 1 is applicable except as follows.

#### 7.12 *Addition:*

The instructions shall state the substance of the following:

- do not use this appliance to dispose of hard materials such as glass and metal;

- switch off or unplug the appliance before attempting to free a jammed rotor with an implement.

If a minimum water flow rate is necessary for the operation of the appliance, this information shall be stated.

#### 7.12.1 Addition:

The instructions shall state that the appliance must be installed so that reset buttons and reversing switches are readily accessible.

## 8 Protection against access to live parts

This clause of Part 1 is applicable.

## 9 Starting of motor-operated appliances

This clause of Part 1 is not applicable.

## 10 Power input and current

This clause of Part 1 is applicable except as follows.

#### 10.1 Addition:

*The representative period is between the fifth second and the fifteenth second of operation.*

#### 10.2 Addition:

*The representative period is between the fifth second and the fifteenth second of operation.*

## 11 Heating

This clause of Part 1 is applicable except as follows.

#### 11.3 Addition:

*Where the external **accessible surfaces** are suitably flat and access permits, then the test probe of Figure 101 is used to measure the temperature rises of external **accessible surfaces** specified in Table 101. The probe is applied with a force of  $4\text{ N} \pm 1\text{ N}$  to the surface in such a way that the best possible contact between the probe and the surface is ensured. The measurement is performed after a contact period of 30 s.*

*The probe may be held in place using a laboratory stand clamp or similar device. Any measuring instrument giving the same results as the probe may be used.*

**11.7 Modification:**

Replace the first paragraph with the following:

*Appliances of the continuous-feed type are operated for 4 min.*

*Appliances of the batch-feed type are operated for two periods of 2 min with a rest period of 30 s during which they are switched off.*

**11.8 Modification:**

Replace the first paragraph with the following:

*During the test, the temperature rises are monitored continuously and shall not exceed the values shown in Table 3 and Table 101.*

*Addition:*

**Table 101 – Maximum temperature rises  
for specified external accessible surfaces under normal operating conditions**

| <b>Surface</b>                                                                                                                                                                                                                                                     | <b>Temperature rise of external accessible surfaces</b><br>K |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <i>Bare metal</i>                                                                                                                                                                                                                                                  | 42                                                           |
| <i>Coated metal<sup>a</sup></i>                                                                                                                                                                                                                                    | 49                                                           |
| <i>Glass and ceramic</i>                                                                                                                                                                                                                                           | 56                                                           |
| <i>Plastic and plastic coating &gt; 0,4 mm<sup>b, c</sup></i>                                                                                                                                                                                                      | 62                                                           |
| NOTE The temperature rise limits of handles, knobs, grips, keyboards, keypads and similar parts are specified in Table 3.                                                                                                                                          |                                                              |
| <sup>a</sup> Metal is considered coated when a coating having a minimum thickness of 90 µm made of enamel, powder or non-substantially plastic coating is used.                                                                                                    |                                                              |
| <sup>b</sup> The temperature rise limit of plastic also applies for plastic material having a metal finish of thickness less than 0,1 mm.                                                                                                                          |                                                              |
| <sup>c</sup> When the thickness of the plastic coating does not exceed 0,4 mm, the temperature rise limits of coated metal for underlying metal apply or the temperature rise limits for glass or ceramic material for underlying glass or ceramic material apply. |                                                              |

**12 Charging of metal-ion batteries**

This clause of Part 1 is applicable.

**13 Leakage current and electric strength at operating temperature**

This clause of Part 1 is applicable.

**14 Transient overvoltages**

This clause of Part 1 is applicable.