

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –  
Part 2-83: Particular requirements for heated gullies for roof drainage**

<https://standards.iteh.ai>

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-83: Exigences particulières pour les dispositifs électriques pour le  
chauffage des gouttières**

[IEC 60335-2-83:2024](https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024)

<https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024>



**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2024 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

#### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

#### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

#### IEC publications search - [webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

#### IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

#### IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

---

#### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

#### A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Recherche de publications IEC -

#### [webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

#### Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [sales@iec.ch](mailto:sales@iec.ch).

#### IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications, symboles graphiques et le glossaire. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 500 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 25 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.



# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –  
Part 2-83: Particular requirements for heated gullies for roof drainage**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-83: Exigences particulières pour les dispositifs électriques pour le  
chauffage des gouttières**

[IEC 60335-2-83:2024](https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024)

<https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024>

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 91.060.20

ISBN 978-2-8322-9690-5

**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.**

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	7
4 General requirement.....	8
5 General conditions for the tests .....	8
6 Classification.....	8
7 Marking and instructions.....	8
8 Protection against access to live parts.....	8
9 Starting of motor-operated appliances .....	8
10 Power input and current.....	9
11 Heating.....	9
12 Charging of metal-ion batteries.....	9
13 Leakage current and electric strength at operating temperature.....	9
14 Transient overvoltages .....	9
15 Moisture resistance .....	9
16 Leakage current and electric strength.....	9
17 Overload protection of transformers and associated circuits.....	9
18 Endurance .....	10
19 Abnormal operation .....	10
20 Stability and mechanical hazards.....	10
21 Mechanical strength .....	10
22 Construction .....	10
23 Internal wiring.....	10
24 Components .....	10
25 Supply connection and external flexible cords .....	11
26 Terminals for external conductors.....	11
27 Provision for earthing .....	11
28 Screws and connections .....	11
29 Clearances, creepage distances and solid insulation .....	11
30 Resistance to heat and fire .....	11
31 Resistance to rusting.....	11
32 Radiation, toxicity and similar hazards.....	12
Annexes .....	13
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances.....	14
Bibliography.....	15

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-83: Particular requirements for heated gullies for roof drainage**

## 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.
- 2) The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60335-2-83 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This second edition cancels and replaces the first edition published in 2001 and Amendment 1:2008. 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) removal of test probe 18 (8.1.1, 20.2, B.22.3, B.22.4).

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

Draft	Report on voting
61/7274/FDIS	61/7300/RVD

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/publications](http://www.iec.ch/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 heated gullies for roof drainage.

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, or
- revised.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can 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 the amendment 1 be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[IEC 60335-2-83:2024](https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024)

<https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024>

## 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 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.

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.



# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

## Part 2-83: Particular requirements for heated gullies for roof drainage

### 1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electrically heated gullies for de-icing the inlet of the drainage system of flat roofs, balconies, and similar structures, their **rated voltage** being not more than 250 V including direct current (DC) supplied appliances and **battery-operated appliances**.

As far as is practicable, this standard deals with the common hazards presented by appliances which 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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

Attention is drawn to the fact that in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

<https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024>

This standard does not apply to 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 60068-2-52, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium, chloride solution)*

### 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

#### 3.1.9 *Modification:* **normal operation**

Replace the first paragraph with the following:

operation of the appliance with a layer of thermal insulation having a thermal resistance of  $1,25 \text{ m}^2 \text{ K/W} \pm 0,3 \text{ m}^2 \text{ K/W}$  covering the top surface

## 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.

### 5.6 Addition:

*Thermostats are short-circuited.*

### 5.7 Addition:

*The tests of Clause 10, Clause 11, Clause 13 and Clause 19 are carried out at an ambient temperature of  $40\text{ °C} \pm 2\text{ °C}$ .*

## 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 of **class I**, **class II** or **class III**.

### 6.2 Addition:

Appliances shall be at least IPX7.

## 7 Marking and instructions

This clause of Part 1 is applicable except as follows.

### 7.12.1 Addition:

The instructions shall include the substance of the following:

Install in an area unlikely to be accessed.

## 8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

### 8.1.1 Addition:

*Test probe 18 is not applied.*

## 9 Starting of motor-operated appliances

This clause of Part 1 is applicable.

## 10 Power input and current

This clause of Part 1 is applicable.

## 11 Heating

This clause of Part 1 is applicable except as follows.

### 11.7 Modification:

Replace the first paragraph with the following:

*Appliances are operated until steady conditions are established.*

### 11.8 Addition:

*The temperature rises given in Table 3 are reduced by 15 K.*

*The temperature rise of the surface of the enclosure, including that which is inaccessible after installation, shall not exceed 60 K.*

## 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. [IEC 60335-2-83:2024](https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024)

<https://standards.iteh.ai/catalog/standards/iec/5f7b8480-19bc-4838-b5f4-38449b9da3ad/iec-60335-2-83-2024>

## 14 Transient overvoltages

This clause of Part 1 is applicable.

## 15 Moisture resistance

This clause of Part 1 is applicable except as follows.

### 15.1.2 Addition:

*Parts of the appliance which are not intended to be exposed to drainage water are sealed before carrying out the test.*

## 16 Leakage current and electric strength

This clause of Part 1 is applicable.

## 17 Overload protection of transformers and associated circuits

This clause of Part 1 is applicable.