

# Household and similar electrical appliances — Safety —

## Part 2-35: Particular requirements for instantaneous water heaters

ICS 13.120; 97.040.50

## National foreword

This British Standard is the UK implementation of EN 60335-2-35:2002+A2:2011, incorporating corrigendum December 2005. It identical to IEC 60335-2-35:2002, incorporating amendments 1:2006, 2:2011 and corrigendum April 2007. It supersedes BS EN 60335-2-35:2002, which will be withdrawn on 24 January 2014.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to IEC text carry the number of the amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

Common modifications by CENELEC amendment A2:2011 are indicated in the text by tags **C2** **C2**.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/7, Safety of electrical appliances - Heated appliance group.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

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### Amendments/corrigenda issued since publication

| Amd. No.                   | Date             | Comments                                                           |
|----------------------------|------------------|--------------------------------------------------------------------|
| 16184<br>Corrigendum No. 1 | 28 April 2006    | Revision of Annex ZA and addition of Annex ZB                      |
| 16999                      | 30 March 2007    | See national foreword                                              |
| 17147<br>Corrigendum No. 2 | 29 June 2007     | Correction to Clause <b>25</b>                                     |
|                            | 31 December 2011 | Implementation of IEC amendment 2:2011 with CENELEC modifications. |

English version

**Household and similar electrical appliances -  
Safety  
Part 2-35: Particular requirements for instantaneous water heaters  
(IEC 60335-2-35:2002)**

Appareils électrodomestiques et  
analogues - Sécurité  
Partie 2-35: Règles particulières  
pour les chauffe-eau instantanés  
(CEI 60335-2-35:2002)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke  
Part 2-35: Besondere Anforderungen  
für Durchflusserwärmer  
(IEC 60335-2-35:2002)

This European Standard was approved by CENELEC on 2002-11-01. 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 document 61/2170/FDIS, future fourth edition of IEC 60335-2-35, prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-35 on 2002-11-01.

This European Standard replaces EN 60335-2-35:1998 + A1:2000.

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) 2003-08-01
- date on which national standards  
conflicting with the EN have to be withdrawn (dow) 2005-11-01

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 instantaneous water heaters.

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:

- NOTE 1 - subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- NOTE 2 - 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;
- NOTE 3 - 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:

- NOTE 4 - requirements: in roman type;
- NOTE 5 - *test specifications: in italic type;*
- NOTE 6 - notes: in small roman type.
- NOTE 7 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.

Special national conditions causing a deviation from this European Standard are listed in Annex ZA and are in addition to those in EN 60335-1.

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

The contents of the corrigendum of December 2005 have been included in this copy.

## Introduction

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.

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## Endorsement notice

The text of the International Standard IEC 60335-2-35:2002 was approved by CENELEC as a European Standard without any modification.

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## Foreword to amendment A1

The text of document 61/3088/FDIS, future amendment 1 to IEC 60335-2-35:2002, prepared by IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-2-35:2002 on 2006-11-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2007-08-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2009-11-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-35:2002.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

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## Endorsement notice

The text of amendment 1:2006 to the International Standard IEC 60335-2-35:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

## **Foreword to amendment A2**

This document (EN 60335-2-35:2002/A2:2011) consists of the text of IEC 60335-2-35:2002/A2:2009 prepared by IEC/TC 61 "Safety of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which the amendment has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2012-04-28
- latest date by which the national standards conflicting  
with the amendment have to be withdrawn (dow) 2014-01-24

Special national conditions causing a deviation from this amendment are listed in Annex ZA.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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## **Endorsement notice**

The text of the International Standard IEC 60335-2-35:2002/A2:2009 was approved by CENELEC as a European Standard with common modifications.

**Annex ZA**  
(normative)**Special national conditions**

**Special national condition:** National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the European Standard.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

| <u>Clause</u> | <u>Special national condition</u> |
|---------------|-----------------------------------|
|---------------|-----------------------------------|

|        |                                         |
|--------|-----------------------------------------|
| 22.101 | <b>Denmark, Finland, Norway, Sweden</b> |
|--------|-----------------------------------------|

For closed water heaters, the minimum rated pressure is 1,0 MPa

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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 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.

**A<sub>2</sub>** 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. **A<sub>2</sub>**

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.