



SLOVENSKI STANDARD
oSIST prEN IEC 60335-2-21:2024
01-september-2024

Gospodinjski in podobni električni aparati - Varnost - 2-21. del: Posebne zahteve za akumulacijske grelnike vode

Household and similar electrical appliances - Safety - Part 2-21: Particular requirements for storage water heaters

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-21: Besondere Anforderungen für Wassererwärmer (Warmwasserspeicher und Warmwasserboiler)

Appareils électrodomestiques et analogues - Sécurité - Partie 2-21: Exigences particulières pour les chauffe-eau à accumulation

Ta slovenski standard je istoveten z: prEN IEC 60335-2-21:2024

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ICS:

13.120	Varnost na domu	Domestic safety
91.140.65	Oprema za ogrevanje vode	Water heating equipment

oSIST prEN IEC 60335-2-21:2024 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN IEC 60335-2-21

June 2024

ICS 13.120; 91.140.65

Will supersede EN 60335-2-21:2021; EN 60335-2-21:2021/A1:2021

English Version

**Household and similar electrical appliances - Safety - Part 2-21:
Particular requirements for storage water heaters
(IEC 60335-2-21:2022)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-21: Exigences particulières pour les chauffe-eau à
accumulation
(IEC 60335-2-21:2022)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-21: Besondere Anforderungen für
Wassererwärmer (Warmwasserspeicher und
Warmwasserboiler)
(IEC 60335-2-21:2022)

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2024-09-06.

The text of this draft consists of the text of IEC 60335-2-21:2022.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

prEN IEC 60335-2-21:2024 (E)**1 European foreword**

2 This document (prEN IEC 60335-2-21:2024) consists of the text of IEC 60335-2-21:2022 prepared by
3 IEC/TC 61 "Safety of household and similar electrical appliances".

4 This document is currently submitted to the Enquiry.

5 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

6 This document is read in conjunction with prEN IEC 60335-2-21:2024/prAA:2024.

7 This document will supersede EN 60335-2-21:2021 and all of its amendments and corrigenda (if any).

8 This document has been prepared under a standardization request addressed to CENELEC by the European
9 Commission. The Standing Committee of the EFTA State subsequently approves these requests for its
10 Member States.

11 For relationship with EU legislation, see informative Annexes ZZA and ZZC, which are an integral part of
12 prEN IEC 60335-2-21:2024/prAA:2024.

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IEC 60335-2-21

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –
Part 2-21: Particular requirements for storage water heaters**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-21: Exigences particulières pour les chauffe-eau à accumulation**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-21: Particular requirements for storage water heaters

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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- 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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60335-2-21 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2012 and Amendment 1:2018. This edition constitutes a technical revision.

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

- a) the text has been aligned with IEC 60335-1:2020;
- b) some notes have been converted to normative text (Clause 1, 5.2, 15.3, 19.1, 19.2, 19.3, 19.4, 22.47, 22.104, 22.110, Annex AA introduction);
- c) updated requirement restricting use of appliance inlets (25.1).

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

Draft	Report on voting
61/6675/FDIS	61/6751/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. The main document types developed by IEC are described in greater detail at 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 storage 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 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 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: Immersion heater units intended to be retrofitted in a heat exchange closed water heater are not allowed unless:
 - the immersion heater unit has been tested with the tank models and brands listed in the instructions of the immersion heater unit;
 - the tank models and brands list the models of the immersion heater units that can be retrofitted (Australia, Netherlands, New Zealand).
- 6.1: Class 0I appliances are allowed (Japan).
- 6.2: IPX0 water heaters are allowed (France).
- 7.1: Additional markings are required (Australia, New Zealand and South Africa).
- 7.12.1: Additional instructions are required (South Africa).
- 13.2: An additional leakage current test is required (China).
- 22.101: Pressure reducing valves have to be designed for an inlet pressure of 2 MPa (South Africa).
- 22.102: The temperature limit is 95 °C (South Africa).
- 22.101: The minimum rated pressure is 1,0 MPa (Denmark, Finland, Norway and Sweden).
- 22.103: Closed water heaters have to incorporate a pressure-relief device sensitive to both pressure and temperature that operates before the water temperature reaches 99 °C (South Africa).
- 22.103: Closed water heaters have to incorporate a temperature relief valve or a combined temperature and pressure-relief valve that operates before the water temperature reaches 100 °C (United Kingdom).
- 22.106: The thermal cut-out of single-phase closed water heaters need only provide single-pole disconnection (Japan).
- 22.106: For all closed water heaters, the thermal cut-out is to provide all-pole disconnection (France).
- 22.110: Additional requirements apply to plastic or resin-based containers for open outlet, cistern type and low pressure type (South Africa).
- 24.1.4 Additional requirements apply to thermal cut-outs (South Africa).
- 24.102: The maximum water temperature is 99 °C (Japan and Norway).
- 24.102: The temperature limit of 130 °C is only allowed for closed water heaters having a rated pressure of at least 0,4 MPa (South Africa).

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.