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

INTERNATIONAL
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COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-21: Particular requirements for storage water heaters

FOREWORD

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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.

This commented version (CMV) of the official standard IEC 60335-2-21:2022 edition 7.0 allows the user to identify the changes made to the previous IEC 60335-2-21:2012+ AMD1:2018 CSV edition 6.1. Furthermore, comments from IEC TC 61 experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

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).

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 ~~may~~ 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 ~~and generic standards~~ 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. ~~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.~~ 1

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. 2

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-21: Particular requirements for storage water heaters

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric **storage water heaters** for household and similar purposes and intended for heating water below boiling temperature, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**. 3

This standard also deals with:

– appliances not intended for normal household use, but which nevertheless ~~may be~~ 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~~;

– ~~This standard is also applicable to~~ **immersion heater units** intended to be retrofitted in a **heat exchange closed water heater** having provision for retrofitting. ~~Such a unit shall comply with the~~ Additional requirements are given in Annex AA.

~~NOTE Australia, Netherlands and New Zealand do not allow i**mmersion heater units** intended to be retrofitted in a **heat exchange closed water heater** 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.~~

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.

~~NOTE 101~~ Attention is drawn to the fact that

– for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements ~~may~~ can be necessary;
– in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities;
– in many countries regulations exist for the installation of equipment connected to the water mains.

~~NOTE 102~~ This standard does not apply to

– appliances for boiling water (IEC 60335-2-15);
– instantaneous water heaters (IEC 60335-2-35);
– commercial dispensing appliances and vending machines (IEC 60335-2-75);

– appliances intended exclusively for industrial 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~~:2013~~, *Thermocouples – Part 1: EMF specifications and tolerances*

IEC 60730-1:2013, *Automatic electrical controls – Part 1: General requirements*
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This standard also deals with:

– appliances not intended for normal household use, but which nevertheless possibly pose a source of danger to the public, such as appliances intended to be used by laymen in shops and on farms;

– **immersion heater units** intended to be retrofitted in a **heat exchange closed water heater** having provision for retrofitting. Additional requirements are given in Annex AA.

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 and similar authorities;

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This standard does not apply to

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– appliances intended exclusively for industrial 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:

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IEC 60730-1:2013/AMD2:2020

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-21: Exigences particulières pour les chauffe-eau à accumulation

AVANT-PROPOS

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8) L'attention est attirée sur les références normatives citées dans cette publication. L'utilisation de publications référencées est obligatoire pour une application correcte de la présente publication.
9) L'attention est attirée sur le fait que certains des éléments de la présente Publication de l'IEC peuvent faire l'objet de droits de brevet. L'IEC ne saurait être tenue pour responsable de ne pas avoir identifié de tels droits de brevets.

L'IEC 60335-2-21 a été établie par le comité d'études 61 de l'IEC: Sécurité des appareils électrodomestiques et analogues. Il s'agit d'une Norme internationale.

Cette septième édition annule et remplace la sixième édition parue en 2012 et l'Amendement 1:2018. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) le texte a été aligné sur l'IEC 60335-1:2020;
b) certaines notes ont été converties en texte normatif (Article 1, 5.2, 15.3, 19.1, 19.2, 19.3, 19.4, 22.47, 22.104, 22.110, introduction de l'Annexe AA);
c) l'exigence qui limite l'emploi de socles de connecteurs a été mise à jour (25.1).

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
61/6675/FDIS	61/6751/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 60335, publiées sous le titre général *Appareils électrodomestiques et analogues – Sécurité*, se trouve sur le site web de l'IEC.

La présente partie 2 doit être utilisée conjointement avec la dernière édition de l'IEC 60335-1 et ses amendements sauf si cette édition l'exclut. Dans ce cas, la dernière édition qui n'exclut pas la présente partie 2 est utilisée. Elle a été établie sur la base de la sixième édition (2020) de cette norme.

NOTE 1 L'expression "la Partie 1" utilisée dans la présente norme fait référence à l'IEC 60335-1.

La présente partie 2 complète ou modifie les articles correspondants de l'IEC 60335-1, de façon à transformer cette publication en norme IEC: Exigences particulières pour les chauffe-eau à accumulation.

Lorsqu'un paragraphe particulier de la Partie 1 n'est pas mentionné dans cette partie 2, ce paragraphe s'applique pour autant que cela soit raisonnable. Lorsque la présente norme mentionne "addition", "modification" ou "remplacement", le texte correspondant de la Partie 1 doit être adapté en conséquence.

NOTE 2 Le système de numérotation suivant est utilisé:

– les paragraphes, tableaux et figures qui s'ajoutent à ceux de la Partie 1 sont numérotés à partir de 101;
– à l'exception de celles qui sont dans un nouveau paragraphe ou de celles qui concernent des notes de la Partie 1, les notes sont numérotées à partir de 101, y compris celles des articles ou paragraphes qui sont remplacés;
– les annexes qui sont ajoutées sont désignées AA, BB, etc.

NOTE 3 Les caractères d'imprimerie suivants sont utilisés:

– exigences: caractères romains;
– *modalités d'essais: caractères italiques;*
– notes: petits caractères romains.

Les termes en **gras** dans le texte sont définis à l'Article 3. Lorsqu'une définition concerne un adjectif, l'adjectif et le nom associé figurent également en gras.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

NOTE 4 L'attention des Comités nationaux est attirée sur le fait que les fabricants d'appareils et les organismes d'essai peuvent avoir besoin d'une période transitoire après la publication d'une nouvelle publication IEC, ou d'une publication amendée ou révisée, pour fabriquer des produits conformes aux nouvelles exigences et pour adapter leurs équipements aux nouveaux essais ou aux essais révisés.

Le comité recommande que le contenu de cette publication soit adopté pour application nationale (obligatoire) au plus tôt 12 mois et au plus tard 36 mois après la date de publication.

Les différences suivantes existent dans les pays indiqués ci-après.

– Article 1: Les éléments thermoplongeurs destinés à être mis à niveau dans un chauffe-eau fermé à échange thermique ne sont pas autorisés, sauf si:
  - l'élément thermoplongeur a été soumis à l'essai avec les marques et modèles de cuves indiqués dans les instructions de l'élément thermoplongeur;
  - les modèles et marques de cuves correspondent aux modèles d'éléments thermoplongeurs qui peuvent être mis à niveau (Australie, Pays-Bas, Nouvelle-Zélande).
– 6.1: Les appareils de la classe 0I sont autorisés (Japon).
– 6.2: Les chauffe-eau IPX0 sont autorisés (France).
– 7.1: Des marquages supplémentaires sont exigés (Afrique du Sud, Australie et Nouvelle-Zélande).
– 7.12.1: Des instructions supplémentaires sont exigées (Afrique du Sud).
– 13.2: Un essai de courant de fuite supplémentaire est exigé (Chine).
– 22.101: Les réducteurs de pression doivent être construits pour une pression d'entrée de 2 MPa (Afrique du Sud).
– 22.102: La limite de température est de 95 °C (Afrique du Sud).
– 22.101: La pression assignée minimale est de 1,0 MPa (Danemark, Finlande, Norvège et Suède).
– 22.103: Les chauffe-eau fermés doivent comporter un dispositif limiteur de pression, sensible à la fois à la pression et à la température, qui se déclenche avant que la température de l'eau atteigne 99 °C (Afrique du Sud).
– 22.103: Les chauffe-eau fermés doivent comporter une vanne de limitation de température ou une vanne combinée de limitation de température et de pression, qui se déclenche avant que la température de l'eau atteigne 100 °C (Royaume-Uni).
– 22.106: Le coupe-circuit thermique des chauffe-eau fermés monophasés doit uniquement assurer une coupure omnipolaire (Japon).
– 22.106: Pour tous les chauffe-eau fermés, le coupe-circuit thermique doit assurer une coupure omnipolaire (France).
– 22.110: Les cuves en matière plastique ou à base de résine pour les chauffe-eau à écoulement libre, à réservoir incorporé et à basse pression sont soumises à des exigences supplémentaires (Afrique du Sud).
– 24.1.4: Les coupe-circuits thermiques sont soumis à des exigences supplémentaires (Afrique du Sud).
– 24.102: La température maximale de l'eau est de 99 °C (Japon et Norvège).
– 24.102: La limite de température de 130 °C est admise uniquement pour les chauffe-eau fermés dont la pression assignée est supérieure ou égale à 0,4 MPa (Afrique du Sud).

INTRODUCTION

Il a été admis par hypothèse, en établissant la présente Norme internationale, que l'exécution de ses dispositions était confiée à des personnes expérimentées et ayant une qualification appropriée.

Les documents de recommandations concernant l'application des exigences de sécurité pour les appareils peuvent être consultés dans les documents de support du CE 61, accessibles sur le site web de l'IEC à l'adresse:

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

Cette information est donnée à l'intention des utilisateurs de la présente Norme internationale et ne constitue nullement un remplacement du texte normatif de la présente norme.

La présente norme reconnaît le niveau de protection internationalement accepté contre les risques électriques, mécaniques, thermiques, liés au feu et au rayonnement des appareils, lorsqu'ils fonctionnent comme en usage normal en tenant compte des instructions du fabricant. Elle couvre également les situations anormales qui peuvent être attendues dans la pratique et elle tient compte de la façon dont les phénomènes électromagnétiques peuvent altérer le fonctionnement sûr des appareils.

La présente norme tient compte autant que possible des exigences de l'IEC 60364, de façon à rester compatible avec les règles d'installation quand l'appareil est raccordé au réseau d'alimentation. Cependant, des règles nationales d'installation peuvent être différentes.

Si un appareil relevant du domaine d'application de la présente norme comporte également des fonctions couvertes par une autre partie 2 de l'IEC 60335, la partie 2 correspondante est appliquée à chaque fonction séparément, dans la limite du raisonnable. Si cela s'applique, l'influence d'une fonction sur les autres fonctions est prise en compte.

Lorsqu'une partie 2 ne comporte pas d'exigences complémentaires pour couvrir les dangers traités dans la Partie 1, la Partie 1 s'applique.

NOTE 1 Cela signifie que les comités d'études responsables pour les parties 2 ont déterminé qu'il n'était pas nécessaire de spécifier des exigences particulières pour l'appareil en question en plus des exigences générales.

La présente norme est une norme de famille de produits traitant de la sécurité d'appareils et a préséance sur les normes horizontales et génériques couvrant le même sujet.

NOTE 2 Les publications horizontales, les publications fondamentales de sécurité et les publications groupées de sécurité couvrant un danger ne s'appliquent pas, parce qu'elles ont été prises en considération lorsque les exigences générales et particulières ont été étudiées pour la série de normes IEC 60335.

Un appareil conforme au texte de la présente norme ne sera pas nécessairement jugé conforme aux principes de sécurité de la norme si, lorsqu'il est examiné et soumis aux essais, il apparaît qu'il présente d'autres caractéristiques qui compromettent le niveau de sécurité visé par ces exigences.

Un appareil utilisant des matériaux ou présentant des modes de construction différents de ceux décrits dans les exigences de la présente norme peut être examiné et soumis aux essais en fonction de l'objectif poursuivi par ces exigences et, s'il est jugé pratiquement équivalent, il peut être estimé conforme aux principes de sécurité de la présente norme.

NOTE 3 Les normes traitant des aspects non relatifs à la sécurité des appareils électrodomestiques sont:

– les normes IEC publiées par le comité d'études 59 concernant les méthodes de mesure d'aptitude à la fonction;

– les normes CISPR 11 et CISPR 14-1, ainsi que les normes applicables de la série IEC 61000-3 concernant les émissions électromagnétiques;

– la norme CISPR 14-2 concernant l'immunité électromagnétique;

– les normes IEC publiées par le comité d'études 111 concernant l'environnement.

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-21: Exigences particulières pour les chauffe-eau à accumulation

1 Domaine d'application

L'article de la Partie 1 est remplacé par le texte suivant.

La présente partie de l'IEC 60335 traite de la sécurité des **chauffe-eau à accumulation** électriques à usage domestique et analogue, destinés au chauffage de l'eau à une température inférieure à la température d'ébullition, dont la **tension assignée** est inférieure ou égale à 250 V pour les appareils monophasés et à 480 V pour les autres appareils, y compris les appareils alimentés en courant continu et les **appareils alimentés par batteries**.

La présente norme traite également des:

– appareils non destinés à un usage domestique normal, mais qui peuvent néanmoins constituer une source de danger pour le public, tels que les appareils destinés à être utilisés par des usagers non avertis dans des magasins et des fermes;

– **éléments thermoplongeurs** destinés à être mis à niveau dans un **chauffe-eau fermé à échange thermique** prévu pour la mise à niveau. Des exigences supplémentaires sont données à l'Annexe AA.

Dans la mesure du possible, la présente norme traite des dangers courants que présentent les appareils et auxquels sont exposés tous les individus situés à l'intérieur et autour de l'habitation. Cependant, elle ne tient en général pas compte

– des personnes (y compris des enfants) dont:

  - les capacités physiques, sensorielles ou mentales; ou
  - le manque d'expérience et de connaissance

  les empêchent d'utiliser l'appareil en toute sécurité sans surveillance ou instruction;

– des enfants qui jouent avec l'appareil.

L'attention est attirée sur le fait que

– pour les appareils destinés à être utilisés dans des véhicules ou à bord de navires ou d'avions, des exigences supplémentaires peuvent être nécessaires;

– dans de nombreux pays, des exigences supplémentaires sont spécifiées par les organismes nationaux de la santé, par les organismes nationaux responsables de la protection des travailleurs et par des organismes similaires;

– dans de nombreux pays, des réglementations existent pour l'installation des équipements raccordés au réseau d'alimentation en eau.

La présente norme ne s'applique pas

– aux appareils destinés à faire bouillir l'eau (IEC 60335-2-15);

– aux chauffe-eau instantanés (IEC 60335-2-35);

– aux distributeurs commerciaux avec ou sans moyen de paiement (IEC 60335-2-75);

– aux appareils prévus exclusivement pour des usages industriels;

– aux appareils destinés à être utilisés dans des locaux qui présentent des conditions particulières, telles que la présence d'une atmosphère corrosive ou explosive (poussière, vapeur ou gaz).

2 Références normatives

L'article de la Partie 1 s'applique, avec l'exception suivante.

Addition:

IEC 60584-1, *Couples thermoélectriques – Partie 1: Spécifications et tolérances en matière de FEM*

IEC 60730-1:2013, *Dispositifs de commande électrique automatiques – Partie 1: Exigences générales*
IEC 60730-1:2013/AMD1:2015
IEC 60730-1:2013/AMD2:2020