

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

Household and similar electrical appliances – Safety –  
Part 2-26: Particular requirements for clocks

Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-26: Règles particulières pour les horloges

ITIH STANDARD PREVIEW  
(standards.iteh.ai)

IEC\_60335-2-26:2002+AMD1:2008.CSV

<https://standards.iteh.ai/catalog/standards/sist/1170240a-0e89-4c96-86d1-8dac1ad6f080/iec-60335-2-26-2002amd1-2008-csv>



## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2008 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 la CEI ou du Comité national de la CEI du pays du demandeur.

Si vous avez des questions sur le copyright de la CEI ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de la CEI de votre pays de résidence.

IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland  
Email: [inmail@iec.ch](mailto:inmail@iec.ch)  
Web: [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 corrigenda or an amendment might have been published.

- Catalogue of IEC publications: [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

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 It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: [www.iec.ch/online\\_news/justpub](http://www.iec.ch/online_news/justpub)

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

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

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: [www.iec.ch/webstore/custserv](http://www.iec.ch/webstore/custserv)

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: [csc@iec.ch](mailto:csc@iec.ch)  
Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00

### A propos de la CEI

La Commission Electrotechnique Internationale (CEI) 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 CEI

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

- Catalogue des publications de la CEI: [www.iec.ch/searchpub/cur\\_fut-f.htm](http://www.iec.ch/searchpub/cur_fut-f.htm)

Le Catalogue en-ligne de la CEI vous permet d'effectuer des recherches en utilisant différents critères (numéro de référence, texte, comité d'études,...). Il donne aussi des informations sur les projets et les publications retirées ou remplacées.

- Just Published CEI: [www.iec.ch/online\\_news/justpub](http://www.iec.ch/online_news/justpub)

Restez informé sur les nouvelles publications de la CEI. Just Published détaille deux fois par mois les nouvelles publications parues. Disponible en-ligne et aussi par email.

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

Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International en ligne.

- Service Clients: [www.iec.ch/webstore/custserv/custserv\\_entry-f.htm](http://www.iec.ch/webstore/custserv/custserv_entry-f.htm)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions, visitez le FAQ du Service clients ou contactez-nous:

Email: [csc@iec.ch](mailto:csc@iec.ch)  
Tél.: +41 22 919 02 11  
Fax: +41 22 919 03 00



# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

---

**Household and similar electrical appliances – Safety –  
Part 2-26: Particular requirements for clocks**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-26: Règles particulières pour les horloges**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

## CONTENTS

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

iTech STANDARD PREVIEW

(standards.itech.ai)

<https://standards.itech.ai/catalog/standards/sist/f7bd40a-0e89-4c96-86d1-8dac1ad61080/iec-60335-2-26-2002amd1-2008-csv>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-26: Particular requirements for clocks**

## 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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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) 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 part of International Standard IEC 60335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This consolidated version of IEC 60335-2-26 consists of the fourth edition (2002) [documents 61/2203/FDIS and 61/2284/RVD] and its amendment 1 (2008) [documents 61/3543/FDIS and 61/3597/RVD].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 4.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

The French version of this standard has not been voted upon.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) 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: Safety requirements for electric clocks.

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 following differences exist in the countries indicated below.

- 20.1: The requirement only applies to floor-standing clocks, which are tested at an angle of 8° (USA).
- 21.1: The impact tests are different (USA).
- 25.7: Lighter types of power supply cords are allowed (USA).

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication 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 the amendment 1 be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

## 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.

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.

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.

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

## Part 2-26: Particular requirements for clocks

### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric clocks having a **rated voltage** not more than 250 V.

NOTE 101 Examples of appliances that are within the scope of this standard are

- alarm clocks;
- spring-driven clocks with an electrically operated winding mechanism;
- clocks incorporating driving means other than motors.

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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

NOTE 102 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may 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.

NOTE 103 This standard does not apply to

- battery-operated clocks;
- 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);
- clocks having other functions, whether or not in combination with time indication, such as master control clocks and timers for cooking ranges, washing machines and similar appliances;
- clocks for "clocking-in" purposes;
- clocks incorporating electronic circuits only (IEC 60065).

### 2 Normative references

This clause of Part 1 is applicable.



### 3 Definitions

This clause of Part 1 is applicable except as follows.

#### 3.1.9 *Replacement:*

##### **normal operation**

operation of the clock under the following conditions

Spring-driven clocks having an electrically operated winding mechanism are operated as in normal use.

Other clocks are operated with the rotor locked.

### 4 General requirement

This clause of Part 1 is applicable.

### 5 General conditions for the tests

This clause of Part 1 is applicable.

### 6 Classification

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

This clause of Part 1 is applicable.

### 7 Marking and instructions

[IEC 60335-2-26:2002+AMD1:2008 CSV](#)

[standards.iteh.ai/catalog/standards/sist/f7bd40a-0e89-4c96-86d1-8dac1ad6f080/iec-60335-2-26-2002amd1-2008-csv](#)

This clause of Part 1 is applicable.

### 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.

### 11 Heating

This clause of Part 1 is applicable.

## 12 Void

## 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.

## 15 Moisture resistance

This clause of Part 1 is applicable.

## 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.

## 18 Endurance

This clause of Part 1 is not applicable.

[IEC 60335-2-26:2002+AMD1:2008 CSV  
https://standards.iteh.ai/catalog/standards/sist/ff7bd40a-0e89-4c96-86d1-8d1145b18/iec-60335-2-26-2002amd1-2008-csv](https://standards.iteh.ai/catalog/standards/sist/ff7bd40a-0e89-4c96-86d1-8d1145b18/iec-60335-2-26-2002amd1-2008-csv)

## 19 Abnormal operation

This clause of Part 1 is applicable except as follows.

### 19.7 Addition:

*Spring-driven clocks, having an electrically operated winding mechanism incorporating capacitors or resistors to reduce the motor voltage, are operated with the rotor locked, capacitors or resistors being short-circuited one at a time.*

## 20 Stability and mechanical hazards

This clause of Part 1 is applicable.

## 21 Mechanical strength

This clause of Part 1 is applicable except as follows.

### 21.1 Modification:

*The impact energy is reduced to 0,20 J.*

*The blows are not applied to spindles for hands.*

*The blows are only applied to dial glasses if the clock fails to comply with the requirements of 8.1 with the dial glass removed.*

## 22 Construction

This clause of Part 1 is applicable except as follows.

### 22.35 Addition:

NOTE 101 Hands are not considered as being actuated in normal use, unless they have to be touched to alter the time setting.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

## 23 Internal wiring

This clause of Part 1 is applicable.

[IEC 60335-2-26:2002+AMD1:2008 CSV](https://standards.iteh.ai/catalog/standards/sist/ff7bd40a-0e89-4c96-86d1-8dac1ad6f080/iec-60335-2-26-2002amd1-2008-csv)

<https://standards.iteh.ai/catalog/standards/sist/ff7bd40a-0e89-4c96-86d1-8dac1ad6f080/iec-60335-2-26-2002amd1-2008-csv>

## 24 Components

This clause of Part 1 is applicable.

## 25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

### 25.3 Modification:

The connection to fixed wiring may be made before the clock has been fixed to its support unless the clock is classified at least IPX1.

### 25.5 Addition:

**Type Z attachment** is allowed.

### 25.7 Addition:

The **supply cords** may be flat non-sheathed cords (code designation 60227 IEC 42).

### 25.19 Modification:

Polyvinyl chloride insulated cord is allowed to be tied into a simple overhand knot around a smooth pin.