

# SLOVENSKI STANDARD SIST EN 60335-2-60:1998

01-junij-1998

BUXca Yý U. SIST EN 60335-2-60:1995 SIST EN 60335-2-60:1995/A53:1997

JUfbcgh[ cgdcX]b^g\_]\ ']b'dcXcVb]\ 'YY\_Hf] b]\ 'UdUfUhcj '!'&!\*\$"XY.'DcgYVbY nU\ hYj Y'nU'j fh]b bY'\_cdY]'fh97'\*\$' ')!&!\*\$.%-+L

Safety of household and similar electrical appliances -- Part 2-60: Particular requirements for whirlpool baths

### iTeh STANDARD PREVIEW

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-60: Besondere Anforderungen für Sprudelbadegeräte

### SIST EN 60335-2-60:1998

Sécurité des appareils électrodomestiques et analogues - Partie 2-60: Règles particulières pour les baignoires à système de brassage d'eau

Ta slovenski standard je istoveten z: EN 60335-2-60:1997

### ICS:

13.120 Varnost na domu Domestic safety

91.140.70 Sanitarne naprave Sanitary installations

SIST EN 60335-2-60:1998 en

SIST EN 60335-2-60:1998

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60335-2-60:1998</u> https://standards.iteh.ai/catalog/standards/sist/41f86623-8293-4dda-9ad7-511547ca3f51/sist-en-60335-2-60-1998

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 60335-2-60

November 1997

ICS 97.170

Supersedes EN 60335-2-60:1991 and its amendments

Descriptors:

Household electrical appliances, bath, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

# Safety of household and similar electrical appliances Part 2: Particular requirements for whirlpool baths

(IEC 60335-2-60:1997)

Sécurité des appareils électrodomestiques et analogues. Partie 2: Règles particulières pour les baignoires à système de brassage d'eau (CEI 60335-2-60:1997)eh STANDARD [(IEC 60335-2-60:1997)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke Teil 2: Besondere Anforderungen für Sprudelbadegeräte

(standards.iteh.ai)

SIST EN 60335-2-60:1998 https://standards.iteh.ai/catalog/standards/sist/41f86623-8293-4dda-9ad7-511547ca3f51/sist-en-60335-2-60-1998

This European Standard was approved by CENELEC on 1997-10-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

 $<sup>^{</sup> extsf{G}}$  1997 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

Page 2 EN 60335-2-60:1997

### Foreword

The text of document 61/1272/FDIS, future second edition of IEC 60335-2-60 prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-60 on 1997-10-01.

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)

1998-07-01

date on which national standards
 conflicting with the EN have to be withdrawn

(dow)

2000-07-01

For products which have complied with EN 60335-2-60:1991 and its amendments A51:1993, A52:1994 and A53:1997 before 2000-07-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2005-07-01.

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances, Part 1: General requirements. It was established on the basis of the 1994 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 whirlpool baths.

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's itch ai/catalog/standards/sist/41f86623-8293-4dda-9ad7-

511547ca3f51/sist-en-60335-2-60-1998

Subclauses which are additional to those in part 1 are numbered starting with 101.

There are no special national conditions causing a deviation from this European Standard, other than those listed in annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in annex ZB to EN 60335-1.

NOTE - 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 2. When a definition of part 1 concerns an adjective, the adjective and the associated noun are also in bold.

#### **Endorsement notice**

The text of the International Standard IEC 60335-2-60:1997 was approved by CENELEC as a European Standard without any modification.

# NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI IEC 60335-2-60

> Deuxième édition Second edition 1997-09

Sécurité des appareils électrodomestiques et analogues –

Partie 2:

Règles particulières pour les baignoires à système de brassage d'eau.

(standards.iteh.ai)

Safety of household and similar attps://standards.ich.a/catalog/standards/sist/4186623-8293-4dda-9ad7-electrical\_appliances\_-60-1998

Part 2:

Particular requirements for whirlpool baths

© IEC 1997 Droits de reproduction réservés — Copyright - all rights reserved

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'éditeur.

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 the publisher.

International Electrotechnical Commission Telefax: +41 22 919 0300 e

on 3, rue de Varembé Geneva, Switzerland e-mail: inmail@iec.ch IEC web site http://www.iec.ch



Commission Electrotechnique Internationale International Electrotechnical Commission Международная Электротехническая Комиссия CODE PRIX
PRICE CODE

M

Pour prix, voir catalogue en vigueur For price, see current catalogue

### CONTENTS

FOR	PEWORD	Page
FOF	REWORD	5
Claus	se	
1	Scope	g
2	Definitions	11
3	General requirement	11
4	General conditions for the tests	11
5	Void	11
6	Classification	- 11
7	Marking and instructions	13
8	Protection against access to live parts	13
9	Starting of motor-operated appliances	15
10	Power input and current	15
11	Heating	15
12	Void	
13	Leakage current and electric strength at operating temperature	15
14	Void	15
15	Void	15 15
16	Leakage current and electric strength SIST EN 60335-2-60:1998	15
17	Overload protection of transformers and associated circuits da-9ad7	15
18	Endurance	15
19	Abnormal operation	17
20	Stability and mechanical hazards	
21	Mechanical strength	17
22	Construction	17
23	Internal wiring	17
24	Components	21
25	Supply connection and external flexible cords	21
26	Terminals for external conductors	21
27	Provision for earthing	21
28	Screws and connections	21
29		21
30	Creepage distances, clearances and distances through insulation	23
31	Resistance to heat, fire and tracking	23
32	Resistance to rusting	23
<i>52</i>	Radiation, toxicity and similar hazards	23
Anne	exes	O.F.

60335-2-60 © IEC:1997

- 5 -

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

### SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES -

### Part 2: Particular requirements for whirlpool baths

#### **FOREWORD**

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- The formal decisions or agreements of the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this international Standard may be the subject of patent rights. The IEC shall not be held responsible or 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.

It forms the second edition of IEC 60335-2-60 and replaces the first edition published in 1991.

The text of this standard is based on

FDIS	Report on voting
61/1272/FDIS	61/1339/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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 third edition (1991) of that standard.

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 whirlpool baths.

60335-2-60 @ IEC:1997

\_ 7 \_

Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in part 1 is to be adapted accordingly.

NOTE 1 - 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 2. When a definition of part 1 concerns an adjective, the adjective and the associated noun are also in bold.

NOTE 2 - Subclauses which are additional to those in part 1 are numbered starting from 101.

### The following additional differences exist in some countries:

- 6.1: Class 0I appliances are allowed (Japan).
- 6.1: Class I portable appliances are allowed (Australia, Canada, Japan, Switzerland and USA).
- 7.12.1: The statement concerning class I appliances is not required (Australia, Japan, Switzerland and USA).
- 8.1: Current limits apply instead of voltage limits (Canada and USA).
- 22.6: The test is different (USA).
- 22.33: The requirements are different (USA).
- 22.35: Current limits apply instead of voltage limits (Canada and USA).
- 22.102: The test is carried out ten times (USA). RD PREVIEW
- 25.3: Class I appliances may have a supply cord fitted with a plug (Australia, Canada, Japan, Switzerland and USA).

SIST EN 60335-2-60:1998

https://standards.iteh.ai/catalog/standards/sist/41f86623-8293-4dda-9ad7-511547ca3f51/sist-en-60335-2-60-1998

60335-2-60 © IEC:1997

-9-

### SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES -

# Part 2: Particular requirements for whirlpool baths

### 1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of electric whirlpool baths for indoor use, for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

This standard also applies to appliances for circulating air or water in conventional baths.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in hotels, fitness centres and similar places, are within the scope of this standard.

So 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.

This standard does not, in general, take into account ai

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.
   https://standards.iten.a/catalog/standards/sist/41f86623-8293-4dda-9ad7-

NOTE 1 - Attention is drawn to the fact that 3151/sist-en-60335-2-60-1998

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- for appliances intended to be used in tropical countries, special requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national water supply authorities, the national authorities responsible for the protection of labour and similar authorities.

NOTE 2 - This standard does not apply to

- equipment for water circulation in swimming and motion exercise pools;
- cleaning appliances for swimming pools;
- appliances intended for medical 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).