



SLOVENSKI STANDARD
SIST EN 60335-2-79:2004

01-oktober-2004

BUXca Yý U

SIST EN 60335-2-79:1998

SIST EN 60335-2-79:1998/A1:2002

SIST EN 60335-2-79:1998/A11:2000

; cgdcX]b'g_]]b'dcXcVb]YY_hf] b]UdUfUH]!'J Ufbcgh!'&!+- "XY.'DcgYVbY'nU hYj Y
nUj]gc_chU bY']gh]b_]Y]b'dUfbY']gh]b_]Yf197 '* \$' ') !&+- .&\$\$/gdfYa Yb^YbŁ

Household and similar electrical appliances - Safety -- Part 2-79: Particular requirements
for high pressure cleaners and steam cleaners

ITd STANDARD PREVIEW

(standards.iteh.ai)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-79:
Besondere Anforderungen für Hochdruckreiniger und Dampfreiniger

[https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-
de6b77c32ae0/sist-en-60335-2-79-2004](https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004)

Appareils électrodomestiques et analogues - Sécurité -- Partie 2-79: Règles particulières
pour les appareils de nettoyage à haute pression et les appareils de nettoyage à vapeur

Ta slovenski standard je istoveten z: EN 60335-2-79:2004

ICS:

97.080

Aparati za nego tal

Floor treatment appliances

SIST EN 60335-2-79:2004

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-79:2004

<https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004>

EUROPEAN STANDARD

EN 60335-2-79

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2004

ICS 97.080

Supersedes EN 60335-2-79:1998 + A11:1999 + A1:2001

English version

**Household and similar electrical appliances –
Safety**
**Part 2-79: Particular requirements for high pressure cleaners
and steam cleaners**
(IEC 60335-2-79:2002, modified)

Appareils électrodomestiques et
analogues –

Sécurité

Partie 2-79: Règles particulières

pour les appareils de nettoyage

à haute pression et les appareils

de nettoyage à vapeur

(CEI 60335-2-79:2002, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke

Teil 2-79: Besondere Anforderungen

für Hochdruckreiniger und Dampfreiniger

(IEC 60335-2-79:2002, modifiziert)

STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-79:2004

<https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004>

This European Standard was approved by CENELEC on 2004-03-16. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 61J/128/FDIS, future second edition of IEC 60335-2-79, prepared by SC 61J of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote.

As a result of the Kista meeting of CENELEC TC 61 in May 2002, a draft amendment prAA containing the relevant existing common modifications was submitted to the formal vote.

The texts of the FDIS and the prAA were approved by CENELEC as a new edition of EN 60335-2-79 on 2004-03-16.

This European Standard replaces EN 60335-2-79:1998 + A11:1999 + A1:2001.

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) 2005-03-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2007-04-01

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 high pressure cleaners and steam cleaners.

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:

- 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.;
- 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:

- 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.

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.

p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

Introduction

p Add:

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.

Endorsement notice

The text of the International Standard IEC 60335-2-79:2002 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 Scope

p **Replace** the second paragraph by:

It also applies to industrial and commercial steam cleaners with the water container having a capacity not exceeding 1 000 l, a **rated pressure** not exceeding 3,2 MPa and the product of capacity and **rated pressure** not exceeding 300.

[SIST EN 60335-2-79:2004](https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004)

6 Classification <https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004>

p **6.2** In the table **replace** the row for indoor use only by

for indoor use only	I - II	IPX4
	III	IPX3

7 Marking and instructions

p **7.1 Add:**

Steam cleaners shall be marked with symbol 5597 of IEC 60417-1.

p **Add:**

7.6 Addition:



[symbol 5597 of IEC 60417-1]

steam

p 7.12 Add:

- the A-weighted sound pressure level L_{pA} in dB(A), emitted by the appliance. If the A weighted sound pressure level exceeds 85 dB(A), it shall also state the sound power level L_{WA} in dB(A) and that appropriate ear protection has to be used;

NOTE Z101 The sound level is measured in accordance with EN 60704-1.

- the weighted r.m.s. acceleration value to which the arms are subjected in m/s^2 .

NOTE Z102 The weighted r.m.s. acceleration value is measured in accordance with ISO 5349 for arm vibrations, the appliance being supplied at **rated voltage**.

20 Stability and mechanical hazards

p Add:

20.Z101 Injury due to unintentional closing or slamming of parts, such as movable side walls and covers, shall be prevented.

Wheels or rollers for the transport of appliances heavier than 20 kg shall be located or protected so that injury to the feet of the operator is prevented.

Compliance is checked by inspection, by measurement and by manual test.

iTeh STANDARD PREVIEW (standards.iteh.ai)

p Add:

Annex ZC

SIST EN (normative) 004

<https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-1d617723e048/sist-en-60335-2-79-2004>

Normative references to international publications with their corresponding European publications

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60364-1	– ¹⁾	Electrical installations of buildings– Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 384.1 S2	2001 ²⁾
IEC 61558-2-3	– ¹⁾	Safety of power transformers, power supply units and similar devices – Part 2-3: Particular requirements for ignition transformers for gas and oil burners	EN 61558-2-3	2000 ²⁾

¹⁾ undated reference

²⁾ valid edition at date of issue

INTERNATIONAL STANDARD

IEC 60335-2-79

Second edition
2002-07

Household and similar electrical appliances – Safety –

Part 2-79: Particular requirements for high pressure cleaners and steam

iTeh STANDARD PREVIEW

(standards.iTeh.ai)
Appareils électrodomestiques et analogues –
Sécurité –

<https://standards.iTeh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-2002-07-01/iec-60335-2-79-2004>
SIST EN 60335-2-79:2004
Partie 2-79:
Règles particulières pour les appareils de nettoyage
à haute pression et les appareils de nettoyage à vapeur

© IEC 2002 — Copyright - all rights reserved

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, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

U

For price, see current catalogue

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	7
3 Definitions	7
4 General requirement	8
5 General conditions for the tests	8
6 Classification	9
7 Marking and instructions	9
8 Protection against access to live parts	11
9 Starting of motor-operated appliances	12
10 Power input and current	12
11 Heating	12
12 Void	13
13 Leakage current and electric strength at operating temperature	13
14 Transient overvoltages	13
15 Moisture resistance	13
16 Leakage current and electric strength	14
17 Overload protection of transformers and associated circuits	14
18 Endurance	14
19 Abnormal operation	15
20 Stability and mechanical hazards	17
21 Mechanical strength	18
22 Construction	19
23 Internal wiring	22
24 Components	22
25 Supply connection and external flexible cords	22
26 Terminals for external conductors	23
27 Provision for earthing	23
28 Screws and connections	23
29 Clearances, creepage distances and solid insulation	23
30 Resistance to heat and fire	23
31 Resistance to rusting	24
32 Radiation, toxicity and similar hazards	24
Annexes	28
Bibliography	28
Figure 101- Warning symbol	25
Figure 102 – Impact test apparatus	26
Figure 103 – Reactions on handle	27

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –Part 2-79: Particular requirements for
high pressure cleaners and steam cleaners

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.
- 2) 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 specifications, 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 for identifying any or all such patent rights.

This part of International Standard IEC 60335 has been prepared by sub-committee 61J: Electrical motor-operated cleaning appliances for industrial use, of IEC technical committee 61: Safety of household and similar electrical appliances.

This second edition cancels and replaces the first edition published in 1995 and its amendment 1 (2000). It constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
61J/128/FDIS	61J/133/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 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 high pressure cleaners and steam cleaners.

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 publication will remain unchanged until 2004. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

The following differences exist in the countries indicated below.

- Clause 1: Different pressure limitations apply (USA).
- 6.1: Ground fault current interrupters are required for appliances rated 250 V or less, single phase (USA).
- 11.101: The losses of burners are subject to regulations (Germany). Smoke spot requirements are different (USA). <https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-4c0b74c2ac/sist-en-60335-2-79-2004>
- 20.103: The fuel tank capacity is limited (USA).
- 21.101, 21.101.2 and 21.102: Different burner tests are required (USA).
- 25.7: Different power supply cord lengths are required (Canada, USA).
- Clause 32: The connection with the water mains is subject to regulations (Canada).

A bilingual version of this publication may be issued at a later date.

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.

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.

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.

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.

<https://standards.iteh.ai/catalog/standards/sist/708cdb83-51d9-4173-bf81-de6b77c32ae0/sist-en-60335-2-79-2004>

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-79: Particular requirements for high pressure cleaners and steam cleaners

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of high pressure cleaners for household, industrial and commercial use having a pressure not less than 2,5 MPa and not more than 25 MPa and with an input to the drive for the high pressure pump not exceeding 10 kW, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

It also applies to industrial and commercial steam cleaners even if the pressure is less than 2,5 MPa.

It is also applicable to appliances making use of other forms of energy for the motor, but it is necessary that their influence is taken into consideration.

As far as it 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

- the use of appliances by young children or infirm persons without supervision,
- playing with the appliance by young children.

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 be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 102 This standard does not apply to

- appliances that are incorporated in process equipment;
- appliances intended to be used in locations where special conditions prevail, such as the presence of corrosive or explosive atmosphere (vapour or gas);
- audio, video and similar electronic apparatus (IEC 60065);
- appliances for medical purposes (IEC 60601);
- hand-held motor-operated electric tools (IEC 60745);
- personal computers and similar equipment (IEC 60950);
- transportable motor-operated electric tools (IEC 61029);
- steam cleaners for household use only (IEC 60335-2-54).