



SLOVENSKI STANDARD

SIST EN 60335-2-79:1998

01-december-1998

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Safety of household and similar electrical appliances -- Part 2-79: Particular requirements for high pressure cleaners and steam cleaners, for industrial and commercial use

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

Sécurité des appareils électrodomestiques et analogues -- Partie 2-79: Règles particulières pour les appareils de nettoyage à haute pression et les appareils de nettoyage à vapeur, à usage industriel et commercial

Ta slovenski standard je istoveten z: EN 60335-2-79:1998

ICS:

97.080 Aparati za nego tal Floor treatment appliances

SIST EN 60335-2-79:1998 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-79:1998

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-79

February 1998

ICS 25.220.10; 97.080

Descriptors: Household electrical appliances, high pressure cleaners, steam cleaners, appliance for commercial use, 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 high pressure cleaners and steam
cleaners, for industrial and commercial use
(IEC 60335-2-79:1995, modified)

Sécurité des appareils
électrodomestiques et analogues
Partie 2: Règles particulières pour les
appareils de nettoyage à haute pression
et les appareils de nettoyage à vapeur
à usage industriel et commercial
(CEI 60335-2-79:1995, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2: Besondere Anforderungen für
Hochdruckreiniger und Dampfreiniger
für industrielle und gewerbliche Zwecke
(IEC 60335-2-79:1995, modifiziert)

<https://standards.iteh.ai/catalog/standards/sist/d9b21a06-0724-4f02-b387-3f6ba135e0d2/sist-en-60335-2-79-1998>

This European Standard was approved by CENELEC on 1998-01-01. 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

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Ref. No. EN 60335-2-79:1998 E

Foreword

The proposal to endorse IEC 335-2-79:1995, document CLC/TC 61 (SEC) 1020, was circulated under the enquiry procedure in June 1995. This proposal was discussed during the Athens meeting in November 1996, when it was decided to submit a draft for EN 60335-2-79 to the formal vote.

This draft was circulated in May 1997 and was ratified by CENELEC as EN 60335-2-79 on 1998-01-01.

This European Standard has been prepared by the secretariat of CENELEC Technical Committee TC 61.

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) 1998-10-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2005-01-01

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 high pressure cleaners and electric steam cleaners, for industrial and commercial use.

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 of part 1 is to be adapted accordingly.

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

Special national conditions causing a deviation from this European Standard are listed in annex ZA and are in addition to those in 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.

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

Endorsement notice

The text of the International Standard IEC 335-2-79:1995 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS**1 Scope**

- p Add a third dashed item:
- steam cleaners for household use.

6 Classification

- 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: **iTeh STANDARD PREVIEW**
(standards.iteh.ai)
Steam cleaners shall be marked with symbol No. 5598 of ISO 3864.

- p 7.12.1 Add: [SIST EN 60335-2-79:1998](https://standards.iteh.ai/catalog/standards/sist/d9b21a06-0724-4f02-b387-386a135e0d2/sist-en-60335-2-79-1998)
<https://standards.iteh.ai/catalog/standards/sist/d9b21a06-0724-4f02-b387-386a135e0d2/sist-en-60335-2-79-1998>

The instructions of appliances intended for commercial and industrial use shall state the equivalent continuous A-weighted sound pressure level emitted by the appliance during normal use. If this level does not exceed 70 dB(A), this may be stated instead.

11 Heating

- p Add:

11.7 Replacement :

Appliances are operated until steady state conditions are established.

30 Resistance to heat, fire and tracking

- p Replace the text by:

This clause of part 1 is applicable except as follows:

- 30.2.2 Not applicable.

Annexes**Annex A - Normative references**

p Replace by:

Annex A
(normative)**Normative references**
International publications with their relevant European publication*Addition:*

<u>IEC standard</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
335-2-3	1993	Safety of household and similar electrical appliances - Part 2: Particular requirements for electric irons	EN 60335-2-3	1995
364 (mod)	Series	Electrical installations for buildings	HD 384	Series
417L	1993	Graphical symbols for use on equipment	HD 243 S12	1995 ¹⁾
989	1991	Separating transformers, autotransformers, variable transformers and reactors	-	-
		SIST EN 60335-2-79:1998		
<u>ISO standard</u>	<u>Year</u>	<u>Title</u>		
3864	1984	Safety colours and safety signs		

Annex ZA
(normative)**Special national conditions***Addition:*Clause Special national condition25.7 **Finland, Norway and Sweden**

Appliances fitted with PVC-sheathed cords are not suitable for use outdoors at low temperatures.

1) HD 243 S12 is based on IEC 417:1973 + supplements A:1974 to M:1994.

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC
335-2-79**

Première édition
First edition
1995-03

**Sécurité des appareils électrodomestiques
et analogues**

Partie 2:

**Règles particulières pour les appareils
de nettoyage à haute pression et
les appareils de nettoyage à vapeur,
à usage industriel et commercial**

<https://standards.iteh.ai/catalog/standards/sist/d9b21a06-0724-4f02-b387-3f6ba135e0d2/sist-en-60335-2-79-1998>

**Safety of household and similar
electrical appliances**

Part 2:

**Particular requirements for high pressure
cleaners and steam cleaners, for
industrial and commercial use**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR
ELECTRICAL APPLIANCESPart 2: Particular requirements for
high pressure cleaners and steam cleaners,
for industrial and commercial use

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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use 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.

This part of International Standard IEC 335 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.

It forms the first edition of IEC 335-2-79.

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

DIS	Report on voting
61J(CO)17	61J/37/RVD

Full information on the voting for the approval of this part 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 335-1 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 335-1, so as to convert that publication into the IEC standard: Safety requirements for electric high pressure cleaners and electric steam cleaners, for industrial and commercial use.

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.

NOTES

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, in this part 2 the adjective and the associated noun are also in **bold**.

2 Subclauses and figures which are additional to those in part 1 are numbered starting from 101.

The following differences exist in some countries:

- Clause 1: Different pressure limitations apply (USA).
This standard does not apply to appliances designed exclusively for household use (Italy).
- Clause 3: The d.c.-component in the appliance neutral is limited (Australia).
- 6.1: Ground fault current interrupters are required for appliances rated 250 V or less, single phase (USA).
- Clause 9: Different starting requirements apply (USA).
- 11.101: The losses of burners are subject to regulations (Germany).
Smoke spot requirements are different (USA).
- 20.103: The fuel tank capacity may be limited (USA).
- 21.101, 21.101.2 and 21.102: Different burner tests are required (USA).
- 24.1.3: Different switch tests apply (USA).
- 25.7: PVC-cables are not suitable for use outdoors at low temperatures (Sweden, Finland).
Different power supply cord lengths are required (Canada, USA).
- Clause 32: The connections with the water mains are subject to regulations (Canada).

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for high pressure cleaners and steam cleaners, for industrial and commercial use

1 Scope

This clause of part 1 is applicable except as follows:

Addition:

This standard applies to high pressure cleaners having a pressure not less than 25 bars and not more than 250 bars with an input to the drive for the high pressure pump not exceeding 10 kW. It also applies to steam cleaners having a usable volume of the water container equal to or greater than 1,5 litres even if the pressure is less than 25 bars.

This standard also applies to fixed appliances within the limits of the previous paragraph.

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.

Modification:

Replace the first two dashed paragraphs of note 3 by:

- 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).

2 Definitions

This clause of part 1 is applicable except as follows:

2.2.9 *Replacement:*

normal operation: The appliance is supplied at **rated voltage** and operated at **rated flow** and **rated pressure** with the nozzle and hose specified by the manufacturer fitted to it; all strainers and filters are in a clean operating condition and the **unloader valve** is set to the **rated pressure**. The **water heater**, if fitted, is operated at maximum power.

2.101 **unloader valve:** A pressure operated valve which, when the pump pressure exceeds the preset value, returns the excess fluid to the inlet system. In addition it bypasses the total pump flow at reduced pressure when its outlet flow is cut off.

2.102 **safety valve:** A pressure operated valve which, when the pump or steam cleaner pressure exceeds the preset value, returns the excess fluid or steam to the inlet system or into the atmosphere.

2.103 **rated pressure:** The maximum pressure at the pump or at the steam cleaner assigned to the appliance by the manufacturer.

2.104 **permissible pressure:** A limiting pressure up to which an appliance and/or parts of the appliance can be operated without impairing its integrity.

2.105 **rated flow:** The flow at **rated pressure** at the nozzle assigned to the appliance by the manufacturer.

2.106 **water heater:** The means of heating water or **cleaning agent** by electricity, gas, liquid fuel or heat exchanger.

2.107 **cleaning agent:** Water with or without the addition of a soluble or miscible chemical.

2.108 **pressure switch:** A device which, in response to varying fluid pressure, provides a controlling function at a pre-set value.

2.109 **flow switch:** A device which, in response to a varying rate of fluid flow, provides a controlling function at a pre-set value.

2.110 **primary safety control:** A control device that responds directly to flame properties sensing the presence of flame and, in event of ignition failure or unintentional flame extinguishment, causes safety shut down.

NOTE - Primary safety controls are also known as flame failure devices.

2.111 **trigger gun:** A device that shuts off the supply of fluid through its outlet if the trigger is not held in its operating position.

2.112 **continuous ignition:** Ignition by an energy source that is continuously maintained throughout the time the burner is in service, whether the burner is firing or not.

2.113 **rated temperature:** The maximum temperature of the **cleaning agent** assigned by the manufacturer.

2.114 **pencil jet nozzle:** The nozzle that gives a concentrated, parallel water jet. It is also called needle jet nozzle, solid jet nozzle or 0 degree jet nozzle.

3 General requirement

This clause of part 1 is applicable.

4 General conditions for the tests

This clause of part 1 is applicable, except as follows: