

Safety of household and similar electrical appliances —

Part 2-79: Particular requirements for high pressure cleaners and steam cleaners, for industrial and commercial use

The European Standard EN 60335-2-79:1998 with the incorporation of amendments A11:1999 and A1:2001 has the status of a British Standard

ICS 25.220.10; 97.080

National foreword

This British Standard is the English language version of EN 60335-2-79:1998 including amendments A11:1999 and A1:2001. It was derived by CENELEC from IEC 60335-2-79:1995 including amendment 1:2000. It supersedes BS 5415-2.4:1986 which will be withdrawn on 2005-01-01.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags [C] [C]. Where a common modification has been introduced by amendment, the tags carry the number of the amendment. In this document, common modifications introduced by CENELEC amendment A11 are indicated by [C11] [C11].

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [A1]. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by [A1] [A1].

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/10, Floor treatment machines (industrial), which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 20, an inside back cover and a back cover.

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English version

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

(includes amendments A11:1999 and A1:2001)
(IEC 60335-2-79:1995 + A1:2000, 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
(inclut les amendements A11:1999 et A1:2001)
(CEI 60335-2-79:1995 + A1:2000, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke —
Teil 2: Besondere Anforderungen für
Hochdruckreiniger und Dampfreiniger für
industrielle und gewerbliche Zwecke
(enthält Änderungen A11:1999 und A1:2001)
(IEC 60335-2-79:1995 + A1:2001, modifiziert)

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

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.

Foreword to amendment A11

A proposal to amend EN 60335-2-79:1998, document CLC/TC 61 (SEC)1122, was circulated for enquiry during the voting procedure on prEN 60335-2-79. The comments were discussed during the Fehraltorf meeting in October 1997 when it was decided to submit a draft for an amendment to EN 60335-2-79 to the formal vote.

The draft was circulated as prAA in June 1998 and was ratified by CENELEC as amendment A11 to EN 60335-2-79 on 1999-04-01.

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

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2000-01-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2005-01-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-79:1998.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

NOTE Amendment numbers commencing A1 refer to the endorsement of IEC amendments, while those commencing A11 originate in CENELEC.

Foreword to amendment A1

The text of document 61J/112/FDIS, future amendment to IEC 60335-2-79:1995 prepared by SC 61J of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-2-79:1998 on 2000-11-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-08-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2005-01-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-79:1998.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

Introduction

An investigation by CENELEC TC 61 has concluded that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. If the product has mechanical moving parts, a risk assessment in accordance with the Machinery Directive 89/392/EEC, 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.

Products within the scope of this standard may incorporate pressurized components for which the Pressure Equipment Directive, 97/23/EC, applies. An investigation by CENELEC TC 61 has concluded that the relevant essential safety requirements of the directive are covered by this standard.

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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).
-  steam cleaners for household use. 

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 pre-set 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

A1 2.115

water jetter

high-pressure pipe-cleaning device, consisting of a nozzle at the end of a high-pressure hose **A1**

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:

4.1 Addition:

*The burner is operated at **rated power input**. Appliances intended for operation at more than one **rated power input** are additionally tested at the most disadvantageous power.*

The burner-air adjustment, where provided, is regulated to establish the air/fuel ratio to produce the combustion characteristics, recommended in the user instructions. The combustion characteristics may be specified by the appearance of the flame, the percentage of carbon dioxide (CO₂) in the flue gases, or other ways.

On appliances designed for use with a flue pipe, a section of flue pipe is attached to the appliance. Flue gas determinations are taken in this flue pipe.

The draught is adjusted to that recommended in the instructions for use.