

Safety of Household and similar electrical appliances —

Part 2-7: Particular requirements for washing machines

The European Standard EN 60335-2-7:2001 has the status of a
British Standard

ICS 97.060

National foreword

This British Standard is the official English language version of EN 60335-2-7:2001. It was derived by CENELEC from IEC 60335-2-7:2000. It supersedes BS EN 60335-2-7:1997 which will be withdrawn on 2007-08-01.

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by **Ⓔ** **Ⓕ** in the margin.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/14, Home Laundry appliances and dishwashers which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/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.

From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

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 2-7: Particular requirements for washing machines
(IEC 60335-2-7:2000, modified)

Sécurité des appareils
électrodomestiques et analogues
Partie 2-7: Règles particulières pour les
machines à laver le linge
(CEI 60335-2-7:2000, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-7: Besondere Anforderungen für
Waschmaschinen
(IEC 60335-2-7:2000, modifiziert)

This European Standard was approved by CENELEC on 2000-08-01. 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.

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CENELEC

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of amendment 2:1999 to IEC 60335-2-7:1993, prepared by the IEC Technical Committee 61, was submitted to the Unique Acceptance Procedure.

The text of document 61/1644/FDIS, future amendment to IEC 60335-2-7:1993 prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote.

The above texts were combined with the text of IEC 60335-2-7:1993 and its amendment 1:1998 into a new edition of IEC 60335-2-7 which, together with the common modifications in EN 60335-2-7:1997, was approved by CENELEC as a new edition of EN 60335-2-7 on 2000-08-01.

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) 2001-08-01
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2007-08-01

This European Standard replaces EN 60335-2-7:1997 and its amendment A1:1998.

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 washing machines.

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.

Subclauses which are additional to those in part 1 are numbered starting with 101.
Annexes which are additional to those in part 1 are lettered AA, BB, etc.

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.

Introduction

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. 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.

Endorsement notice

The text of the International Standard IEC 60335-2-7:2000 was approved by CENELEC as a European Standard with agreed common modifications.

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SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –

Part 2-7: Particular requirements for washing machines

1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of electric washing machines for household and similar purposes, intended for washing clothes and textiles, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 1 Washing machines may incorporate means for heating water, water extraction and drying.

NOTE 2 Washing machines having a spin extraction function also have to comply with the relevant requirements of IEC 60335-2-4.

Washing machines having a drying function also have to comply with the relevant requirements of IEC 60335-2-11.

NOTE 3 Washing machines supplied with electricity together with other forms of energy are also within the scope of this standard.

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 shops, in light industry and on farms, are within the scope of this standard.

NOTE 4 Examples of such appliances are washing machines for communal use in blocks of flats or in launderettes.

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

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

NOTE 5 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;
- 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 authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 6 This standard does not apply to:

- appliances designed 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).

2 Definitions

This clause of part 1 is applicable except as follows:

2.2.9 Replacement:

normal operation: Appliances are operated filled with a quantity of cloth, having a mass in the dry condition equal to the maximum mass specified in the instructions for use, and with the maximum quantity of water for which they are designed. However, if the power input or current is higher when only 50 % of the cloth is used, the appliance is operated with this load instead.

The temperature of the water is:

- 65 °C ± 5 °C for appliances without heating elements;
- 15 °C ± 5 °C for other appliances.

If the appliance does not incorporate a programmer, the water is heated to 90 °C ± 5 °C or lower if steady conditions are established, before starting the first washing period.

The cloth is pre-washed double-hemmed cotton sheets having dimensions of approximately 70 cm × 70 cm and a mass between 140 g/m² and 175 g/m² in the dry condition.

NOTE If the cloth in washing machines of the continuously rotating impeller type does not move properly during operation, its quantity is reduced until the maximum motor power input is attained.

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:

4.3 Addition:

The test of 15.101 is made before that of 15.3.

4.7 Replacement:

The tests are made in a draught-free location and in general at an ambient temperature of 20 °C ± 5 °C.

If the temperature attained by any part is limited by a temperature sensitive device or is influenced by the temperature of the water, the ambient temperature is maintained at 23 °C ± 2 °C if all three of the following conditions are met:

- *the temperature of the water is within 6 K of the boiling point or the temperature of the water or any part of the washing machine is limited by a thermal control;*
- *the room temperature during the test is less than 21 °C;*
- *the difference between the temperature rise of the relevant part and the limit specified does not exceed 25 K minus the room temperature.*

5 Void

6 Classification

This clause of part 1 is applicable except as follows:

6.1 Replacement:

Appliances shall be of **class I**, **class II** or **class III** with respect to protection against electric shock.

Compliance is checked by inspection and by the relevant tests.

6.2 Addition:

Appliances shall be at least IPX4.

7 Marking and instructions

This clause of part 1 is applicable except as follows:

7.1 Addition:

Appliances without automatic water level control shall also be marked with the maximum water level.

The safety release mechanism of power-driven wringers shall be marked to indicate its method of operation, unless its operating means has to be continuously actuated by the user.

NOTE This marking may be near the mechanism.

7.10 Addition:

If the **off position** is only indicated by letters, the word "off" shall be used.

7.12 Addition:

The instructions for use shall specify the maximum mass of dry cloth in kilogrammes, for which the appliance is designed.

The instructions for use for washing machines incorporating a power-driven wringer shall draw attention to the potential hazards involved when operating the wringer and shall state that

- the wringer must be disengaged or switched off when not in use;
- the appliance must not be operated by children.