
Varnost gospodinjskih in podobnih električnih aparatov - 2-58. del: Posebne zahteve za komercialne električne pomivalne stroje (IEC 60335-2-58:1995)

Safety of household and similar electrical appliances - Part 2: Particular requirements for commercial electric dishwashing machines (IEC 60335-2-58:1995)

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Descriptors: Household electrical appliances, dishwashers, 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 commercial
electric dishwashing machines
(IEC 335-2-58:1995)

Sécurité des appareils
électrodomestiques et analogues
Partie 2: Règles particulières pour les
lave-vaisselle électriques à usage
collectif
(CEI 335-2-58:1995)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2: Besondere Anforderungen für
elektrische Geschirrspülmaschinen für
den gewerblichen Gebrauch
(IEC 335-2-58:1995)

This European Standard was approved by CENELEC on 1997-03-11. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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 335-2-58:1995, document CLC/TC 61 (SEC) 1036, was circulated under the enquiry procedure in July 1995. This proposal was discussed during the Copenhagen meeting in May 1996, when it was decided to submit a draft for EN 60335-2-58 to the formal vote.

This draft was circulated in September 1996 and was ratified by CENELEC as EN 60335-2-58 on 1997-03-11.

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) 1997-12-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 1999-12-01

For products which have complied with EN 60335-2-58:1993 before 1999-12-01, as shown by the manufacturer or by a certification body, these previous standards may continue to apply for production until 2004-12-01.

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 commercial electric dishwashing machines.

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. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

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; [SIST EN 60335-2-58:1998](https://standards.iteh.ai/catalog/standards/sist/c967c7a7-a5ce-43e0-becc-b7e6356fe707/sist-en-60335-2-58-1998)
- test specifications: in italic type;
- notes: in small roman type. <https://standards.iteh.ai/catalog/standards/sist/c967c7a7-a5ce-43e0-becc-b7e6356fe707/sist-en-60335-2-58-1998>

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 NOTE - 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 335-2-58:1995 was approved by CENELEC as an European Standard without any modification.

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>
436	1981	Methods of measuring the performance of electric dishwashers	-	-

<u>ISO standard</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
1817	1985	Vulcanized rubber - Determination of the effect of liquids	-	-
4046	1978	Paper, board, pulp and related terms Vocabulary	-	-

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
335-2-58

Deuxième édition
Second edition
1995-06

**Sécurité des appareils électrodomestiques
et analogues**

Partie 2:
Règles particulières pour les lave-vaisselle
électriques à usage collectif

**Safety of household and similar electrical
appliances**

Part 2:
Particular requirements for commercial
electric dishwashing machines

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for commercial
electric dishwashing machines

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 61E: Safety of electrical commercial catering equipment, of IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the second edition of IEC 335-2-58 and replaces the first edition published in 1990.

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

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DIS EN 60335-2-58:1998	
Report on voting	
61E/126/DIS	61E/143/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 335-1 and its amendments. It was established on the basis of the third edition (1991) of that standard and its amendment 1 (1994).

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 commercial electric dishwashing machines.

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.

- 2 Subclauses, notes and figures which are additional to those in part 1 are numbered starting from 101.
- 3 Additional annexes to those in part 1 are lettered AA, BB, etc.

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SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for commercial electric dishwashing machines

1 Scope

This standard deals with the safety of electrically operated dishwashing machines for washing plates, dishes, glassware, cutlery and similar articles, with or without means for water heating or drying, not intended for household use, their **rated voltage** being not more than 250 V for single-phase appliances connected between one phase and neutral and 480 V for other appliances.

NOTE 1 – Examples of appliances are:

- conveyor dishwashers;
- batch dishwashers;
- brush machines.

NOTE 2 – These appliances are used, for example, in kitchens such as in restaurants, canteens, hospitals, and commercial enterprises such as bakeries, butcheries, etc.

The electrical part of appliances making use of other forms of energy is also within the scope of this standard.

So far as is practicable, this standard deals with the common hazards presented by these types of appliances.

NOTE 3 – 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;
- for appliances intended for disinfection, 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;
- in many countries additional requirements are specified for pressure appliances.

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This standard does not apply to:

- appliances designed exclusively for industrial purposes, for example machines used in the food industry for cleaning receptacles which serve as packaging for final products (e.g. bottle-cleaning machines), and machines used in manufacturing processes;
- dishwashers which do not form one functional unit, for example where a transportation device transfers the load from one separate unit to another;
- separately driven transport devices not confined in the appliance;
- 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:

2.2.4 Addition:

NOTE – The **rated power input** is the sum of the power inputs of all the individual elements in the appliance which can be on at one time; where there are several such combinations possible, that giving the highest power input is used in determining the **rated power input**.

2.2.9 Replacement:

normal operation: Operation of the appliance under the following conditions:

Appliances intended to be connected to a water supply are connected to a water supply having the pressure and temperature specified in the instructions.

If a range of temperatures and pressures is specified in the instructions then the water supply is at the conditions within the range which will give the most unfavourable temperature results. Water inlets intended for cold water only are connected to a source supplying water at a temperature of $15\text{ °C} \pm 5\text{ °C}$.

The appliance is filled with the maximum quantity of water for which it is designed, without detergents or rinsing agents. **Brush machines** are tested with dishes and the dishwasher is loaded with the maximum number of dishes specified in the instructions for use. The dimensions of the dishes are as specified in IEC 436. Other appliances are tested without dishes.

Batch dishwashers are operated on continuous cycles, each cycle being followed by a rest period of 1 min. Lids or covers, if any, are left open during the rest period.

Conveyor dishwashers and brush machines are operated continuously.

The appliance is operated as follows:

- appliances with automatic timers or programmers are operated with the programme which will give the most unfavourable temperature results;
- appliances which have neither an automatic timer nor a programmer are operated in accordance with the instructions for use, but with the controls intended to be set by the user set at maximum or that setting giving the most unfavourable temperature results.

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2.2.101 conveyor (rack or flight) dishwasher: An appliance in which the various processes e.g. washing, rinsing etc., are carried out, the load being moved through the various operations automatically.

2.2.102 batch dishwasher: An appliance in which the various processes are carried out sequentially on a single load.