



SLOVENSKI STANDARD

SIST EN 60335-2-5:1995

01-marec-1995

Safety of household and similar electrical appliances - Part 2: Particular requirements for dishwashers (IEC 335-2-5:1984, 3rd edition, modified)

Safety of household and similar electrical appliances -- Part 2: Particular requirements for dishwashers

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2: Besondere Anforderungen für Geschirrspülmaschinen

Sécurité des appareils électrodomestiques et analogues -- Partie 2: Règles particulières pour les lave-vaisselle

[SIST EN 60335-2-5:1995](https://standards.iteh.ai/catalog/standards/sist/ceaf4f48-e401-47c9-b1db-3cb24088aa9c/sist-en-60335-2-5-1995)

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Ta slovenski standard je istoveten z: EN 60335-2-5:1989/A3:1992

ICS:

13.120	Varnost na domu	Domestic safety
97.040.40	Pomivalni stroji	Dishwashers

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EUROPEAN STANDARD
NORME EUROPEENNE
EUROPÄISCHE NORM

EN 60 335-2-5
April 1989

UDC: 621.365:64-621-83:64:614.8.004.1-777:621.396.669.8

KEY WORDS: Household electrical appliance; dishwasher; protection against electric shock; protection against fire risk; protection against mechanical hazard

ENGLISH VERSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES
PART 2: PARTICULAR REQUIREMENTS FOR DISHWASHERS
(IEC 335-2-5 (1984) 3rd edition, modified)

Sécurité des appareils
électrodomestiques
et analogues
Deuxième partie:
Règles particulières pour
les lave-vaisselle
(CEI 335-2-5 (1984)
3ème édition, modifiée)

Sicherheit elektrischer Geräte
für den Hausgebrauch und
ähnliche Zwecke
Teil 2:
Besondere Anforderungen für
Geschirrspülmaschinen
(IEC 335-2-5 (1984)
3. Ausgabe, modifiziert)

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This European Standard was ratified by CENELEC on 6 December 1988.

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 CENELEC 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, Luxemburg, 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

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Ref. No. EN 60 335-2-5:1989 E

EN 60 335-2-5

BRIEF HISTORY

The proposal to endorse the third edition of IEC Publication 335-2-5, document CENELEC/TC 61 (SEC) 432, was circulated under the enquiry procedure in January 1985.

This proposal was discussed during the Zandvoort meeting in June 1986 when it was decided to submit a draft for EN 60 335-2-5 to the voting procedure. This procedure started in February 1988.

The text of this draft was ratified by the CENELEC Technical Board on the 13th of September 1988.

A proposal for amending the standard was discussed during the Nice meeting in November 1986 when it was decided to submit a draft for an amendment to EN 60 335-2-5 to the voting procedure. This procedure started in April 1988.

The text of this draft was ratified by the CENELEC Technical Board on the 6th of December 1988. It has been incorporated in EN 60 335-2-5.

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FOREWORD

R This European Standard has been prepared by the Secretariat of CENELEC Technical Committee 61.

The following dates are applicable:

- date of announcement (doa) 1989-03-01
- date of latest publication (dop) 1989-09-01
- date of withdrawal of conflicting national standards (dow) 1990-12-01

This European Standard replaces HD 257 S2.

This document supplements or modifies the corresponding clauses of IEC 335-2-5, third edition, so as to convert that standard into the European Standard EN 60 335-2-5, which has to be used in conjunction with EN 60 335-1 (1988), Safety of household and similar electrical appliances, Part 1: General requirements.

Sub-clauses which are in addition to those in IEC 335-2-5 are numbered starting with 601. Annexes are lettered YA, YB, etc.

Special national conditions (snc) causing a deviation from this European Standard are listed in Annex ZX and are in addition to those in EN 60 335-1.

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There are no national deviations from this European Standard, other than those listed in Annex ZY of EN 60 335-1.

Note. Where reference is made to other harmonized standards, the latest edition of that standard is applicable.

r The following print types referred to in the preface of IEC 335-2-5 are used:

- requirements proper: in roman type (indicated in this document in the margin by R);
- test specifications: in italic type (indicated in this document in the margin by i);
- explanatory matter: in smaller roman type (indicated in this document in the margin by r).

In addition:

- instructions for modification of the reference document: in italic type (indicated in this document in the margin by i).

EN 60 335-2-5

ENDORSEMENT NOTICE

R IEC 335-2-5, third edition (1984), applies, taking into account the following common modifications.

COMMON MODIFICATIONS

- i Foreword Delete.
- Preface On page 5, delete the sentence "Consideration may be given to future editions of or amendments to IEC Publication 335-1".
- On page 7, delete the text dealing with the differences existing in some countries.
- On page 7, add to the list of other publications quoted:
- HD 274: Requirements for the connection of washing machines and dishwashers to the water supply mains.

7. MARKING

- i 7.1 Add: (standards.iteh.ai)
- r Refer snc.
- i 7.10 Delete.
- <https://standards.iteh.ai/catalog/standards/sist/ceaf48-e401-47c9-b1db-3cb24088aa9c/sist-en-60335-2-5-1995>

15. MOISTURE RESISTANCE

- i 15.3 In the test specification, replace "Appendix AA" by "Annex ZA".
- 15.101 Replace in the explanations " $C_{12}H_{25}NaSO_4$ " by " $C_{12}H_{25}Na_2SO_4$ ".

19. ABNORMAL OPERATION

- i 19.6 Delete the explanation referring to Appendix D.
- 19.101 Add to the examples of fault conditions:
- r
- failure or blocking of the mechanical part of a water level switch;
 - puncture of the capillary tube of a thermostat.

COMMON MODIFICATIONS

- i After the second paragraph of the explanations, add:
- r Malfunctioning of components is restricted to those cases where a defect of the component might entail a hazard to the user or the environment.
- i Delete the first sentence of the fifth paragraph of the explanations and start the second sentence as follows:
- r Locking in the "on" position
- i Delete the sixth paragraph of the explanations, which deals with water level switches.
20. **STABILITY AND MECHANICAL HAZARDS**
- i 20.101 After the first paragraph, add:
- However, for dishwashers normally used on a table or similar support and having a door with horizontal hinges at its lower edge, a mass of 7 kg is applied instead of the mass of 23 kg.
22. **CONSTRUCTION**
- i Add: [SIST EN 60335-2-5:1995](https://standards.iteh.ai/catalog/standards/sist/ceaf4f48-e401-47c9-b1db-3b24088a9c/sist-en-60335-2-5-1995)
<https://standards.iteh.ai/catalog/standards/sist/ceaf4f48-e401-47c9-b1db-3b24088a9c/sist-en-60335-2-5-1995>
- R 22.15 Replacement:
- Materials which burn fiercely, such as celluloid, shall not be used in the construction of appliances.
- Insulating material used for switching devices, such as switches, thermostats and other control devices, shall be resistant to fire.
- This requirement does not apply to thermal cut-outs and overload releases.
- i Compliance is checked by inspection, by a burning test if necessary and, for the resistance to fire, by the following test.
- A gas flame is applied to the outside of a separate sample of the switching device, which is suspended in still air. The gas flame is applied to the most unfavourable place where a flame may be expected, the gas flame being applied each time to the same place.
- The flame has a length of 12 ± 2 mm and is obtained by burning butane gas from a hypodermic needle having a bore of 0.5 ± 0.1 mm. Initially, the flame is applied for 1 min and is then removed.

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COMMON MODIFICATIONS

- i
- If no self-sustaining flame occurs, the flame is immediately applied for a further period of 1 min and is then removed. If again no self-sustaining flame occurs, the flame is immediately applied once more for a period of 2 min and is then removed.
- If again no self-sustaining flame occurs, the sample is considered to have withstood the test, provided that during the test no burning drops or glowing particles have fallen from the sample.
- If a self-sustaining flame occurs or if burning drops or glowing particles have fallen from the sample and if the switching device is normally mounted in a separate casing within the dishwasher, the test procedure is repeated, the flame being, however, applied to the interior of the casing. If no separate casing is provided or if the casing shows self-sustaining flames or if burning drops or glowing particles have fallen from the casing, the test procedure is repeated on the switching device mounted in the dishwasher, the latter being placed on a piece of white pine-wood board covered with tissue paper.
- During this test, flames, burning drops or glowing particles shall not spread fire to other parts of the dishwasher or to its surroundings.
- Any flame shall extinguish within 30 s and there shall be no burning of the tissue paper or scorching of the board.
- r
- Places where a flame may be expected are those where there is a risk of the formation of a tracking path, for example due to the deposition of detergent, moisture or conductive material emanating from contacts and the like.
- The hypodermic needle may be bent in order to reach places where a flame may be expected.
- A separate casing is considered as a means to prevent propagation of fire to other parts of the dishwasher or to its surroundings; it may contain one or more switching devices.
- In order to make it possible to apply the flame inside the dishwasher, it may be necessary to cut away a part of it, care being taken that this does not influence the result of the test.
- Tissue paper is specified in Clause 6.86 of ISO Standard 4046-1987 as thin, soft and strong lightweight paper generally intended for packing delicate articles, its substance being between 12 g/m^2 and 30 g/m^2 .

COMMON MODIFICATIONS

r This test is not made on switching devices carrying a current less than 1 A under normal conditions of use or on insulating material withstanding a tracking test as specified in Sub-clause 30.3, with the supply voltage increased to 250 V.

23. **INTERNAL WIRING**

i Replace the text by:

R This clause of Part 1 is applicable except as follows:

i 23.4 **Modification:**
Instead of 10 000 flexings, the number of flexings is 30 000.

24. **COMPONENTS**

i Add:

R 24.601 Components necessary for the connection of the dishwasher to the water supply mains shall be delivered together with the dishwasher; these components shall be suitable for their purpose.

i Compliance is checked by inspection and by the appropriate tests specified in HD 274.

30. **RESISTANCE TO HEAT, FIRE AND TRACKING**

i Replace the text by:

R This clause of Part 1 is applicable except as follows:

i 30.2 **Addition:**
r The hot-mandrel test is not made on parts of insulating material used for switching devices, such as switches, thermostats and other control devices, except thermal cut-outs and overload releases; for such parts the tests of Sub-clause 22.15 are considered to be adequate.

i 30.3 **Modification:**
R Instead of the requirement, the following applies:
Supplementary insulation of metal-encased Class II dishwashers and insulating parts retaining live parts in position, shall be of material resistant to tracking.

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COMMON MODIFICATIONS

i Appendix C Delete.

Appendix D Delete.

Appendix AA Delete.

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ANNEX YA (normative)**COMPOSITION OF DETERGENT**

- R The detergent has the following composition in parts by mass:
- | | |
|---|----|
| - sodium tripolyphosphate | 20 |
| - sodium hexa-metaphosphate | 40 |
| - sodium metasilicate (anhydrous) | 30 |
| - sodium sulphate (anhydrous) | 6 |
| - sodium dichloro-isocyanurate (Ficlor 60s) | 2 |
| - non-ionic wetting agent | 2 |

The non-ionic wetting agent is thoroughly mixed with the silicate and sulphate; the Ficlor 60s is mixed with the phosphates and this mixture is then thoroughly mixed into the first mixture.

- r The detergent is to be stored in a waterproof bag in a cool atmosphere and used within three months of its preparation.

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EN 60 335-2-5

ANNEX ZX (normative)**SPECIAL NATIONAL CONDITIONS**

R The following special national conditions, which are in addition to those in EN 60 335-1, exist in the countries mentioned.

7.1 DENMARK

Dishwashers of Class I shall be marked with the following text:
Skal ekstrabeskyttes, jf. stærkstrømsregl.

r Shall be protected against indirect contact, see Heavy Current Regulations.

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EUROPEAN STANDARD
NORME EUROPEENNE
EUROPÄISCHE NORM

EN 60335-2-5/A1

October 1990

UDC 621.365:64-621-83:64:614.8.004.1-777:621.396.669.8

Descriptors: Household electrical appliance, dishwasher, protection against electric shock, protection against fire risk, protection against mechanical hazard

Amendment A1 to the English version of EN 60335-2-5

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

PART 2: PARTICULAR REQUIREMENTS FOR DISHWASHERS

(Amendment 1:1988 to IEC 335-2-5:1984, modified)

Sécurité des appareils
électrodomestiques
et analogues
Deuxième partie:
Règles particulières pour
les lave-vaisselle
(Modification 1:1988 à la
CEI 335-2-5:1984, modifiée)

Sicherheit elektrischer
Geräte für den Hausgebrauch
und ähnliche Zwecke
Teil 2:
Besondere Anforderungen für
Geschirrspülmaschinen
(Änderung 1:1988 zu
IEC 335-2-5:1984, modifiziert)

iTeh STANDARD PREVIEW

This amendment A1 modifies the European Standard EN 60335-2-5:1989. It was approved by CENELEC on 5 March 1990. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

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

BRIEF HISTORY

The proposal to endorse amendment 1 to IEC Publication 335-2-5, documents CLC/TC 61 (SEC) 578 and 642, was circulated under the enquiry procedure in August 1987 and March 1988.

This proposal was discussed during the Neusiedl meeting in May 1988 and the Brussels meeting in November 1988 when it was decided to submit a draft for an amendment to EN 60335-2-5 to the voting procedure. This procedure started in June 1989.

A proposal for amending EN 60335-2-5 was discussed during the Brussels meeting in November 1988 when it was decided to submit a draft for an amendment to EN 60335-2-5 to the Unique Acceptance Procedure (UAP). This procedure started in July 1989.

The texts of both drafts were ratified by the CENELEC Technical Board on the 5th of March 1990 and are combined in this amendment.

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FOREWORD

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

The following dates are applicable:

- date of announcement (doa) 1990-06-01
- date of latest publication (dop) 1990-12-01
- date of withdrawal of conflicting national standards (dow) 1992-11-01

For products which have complied with EN 60335-2-5:1989 before 1992-11-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-11-01.

This document supplements or modifies the corresponding clauses of amendment 1:1988 to IEC 335-2-5:1984, so as to convert it into amendment A1 to EN 60335-2-5:1989.

As a consequence of endorsing amendment 1 to IEC 335-2-5, the common modifications in EN 60335-2-5 concerning subclauses 23.4, 30.2 and 30.3 are withdrawn. This procedure results in replacing these common modifications by similar IEC text.

EN 60335-2-5, including this amendment, has to be used in conjunction with EN 60335-1:1988, including its amendments A2:1988, A5:1989 and A6:1989.

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

[SIST EN 60335-2-5:1995](https://standards.iteh.ai/catalog/standards/sist/cea2448-e401-47c9-b1db-3d18161e-c1035e119e)

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There are no national deviations from this amendment.

Other publication quoted in this amendment:

HD 243: Graphical symbols for use on equipment (see IEC 417).
