



# SLOVENSKI STANDARD

## SIST EN 60335-2-21:1995

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### **Safety of household and similar electrical appliances - Part 2: Particular requirements for storage water heaters (IEC 335-2-21:1989 + amendments 1:1990 and 2:1990, modified)**

Safety of household and similar electrical appliances -- Part 2: Particular requirements for storage water heaters

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2: Besondere Anforderungen für Wassererwärmer (Warmwasserspeicher und Warmwasserboiler)

Sécurité des appareils électrodomestiques et analogues -- Partie 2: Règles particulières pour les chauffe-eau à accumulation

**Ta slovenski standard je istoveten z: EN 60335-2-21:1992**

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#### **ICS:**

13.120	Varnost na domu	Domestic safety
91.140.65	Oprema za ogrevanje vode	Water heating equipment

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UDC 644.627-83:614.8:620.1

Descriptors: Household electrical appliances, storage water heaters, 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 storage water heaters**  
(IEC 335-2-21:1989 + amendments 1:1990 and 2:1990, modified)

Sécurité des appareils  
électrodomestiques  
et analogues  
Deuxième partie:  
Règles particulières pour  
les chauffe-eau à accumulation  
(CEI 335-2-21:1989 +  
modifications 1:1990  
et 2:1990, modifiées)

Sicherheit elektrischer  
Geräte für den Hausgebrauch  
und ähnliche Zwecke  
Teil 2:  
Besondere Anforderungen für  
Wassererwärmer (Warmwasser-  
speicher und Warmwasserboiler)  
(IEC 335-2-21:1989 + Änderungen  
1:1990 und 2:1990, modifiziert)

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This European Standard was approved by CENELEC on 24 March 1992. 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.

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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FOREWORD

R The proposal to endorse the third edition of IEC 335-2-21, document CLC/TC 61 (SEC) 693, was circulated under the enquiry procedure in July 1989.

This proposal was discussed during the Helsinki meeting in May 1990 when it was decided to submit a draft for EN 60335-2-21 to the voting procedure. This procedure started in January 1991.

The proposal to endorse amendment 1 to IEC 335-2-21, document CLC/TC 61 (SEC) 726, was circulated under the enquiry procedure in March 1990.

This proposal was discussed during the meetings in Athens in November 1990 and in Baden in May 1991, when it was decided to submit a draft for an amendment to prEN 60335-2-21 to the voting procedure. This procedure started in October 1991.

The proposal to endorse amendment 2 to IEC 335-2-21 was discussed during the Helsinki meeting in May 1990, when it was decided to submit a draft for an amendment to prEN 60335-2-21 to the unique acceptance procedure (UAP). This procedure started in January 1991.

The texts of these draft were combined and ratified by CENELEC on the 24th of March 1992 as EN 60335-2-21.

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

The following dates are applicable:

- latest date of publication  
of an identical national standard (dop) 1993-01-01
- date of withdrawal of  
conflicting national standards (dow) 1996-01-01

For products which have complied with the relevant national standard before 1996-01-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-01-01.

p This document supplements or modifies the corresponding clauses of IEC 335-2-21:1989 including its amendments 1:1990 and 2:1990, so as to convert that standard into the European Standard EN 60335-2-21.

R This standard has to be used in conjunction with EN 60335-1:1988, Safety of household and similar electrical appliances, Part 1: General requirements, including its amendments A2:1988, A5:1989, A6:1989, A51:1991, A52:1992 and A53:1992.

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 in addition to those in Part 1 are numbered starting with 101.

Special national conditions (snc) causing a deviation from this European Standard are listed in annex ZX and are in addition to those in EN 60335-1.

National deviations from this European Standard are listed in annex ZY and are in addition to those in EN 60335-1.

- r The following print types are used:  
R - requirements: in roman type  
i - test specifications: in italic type  
r - explanations: in small roman type.

- p Note. In this document the following indications are used in the margin:  
R for roman type,  
i for italic type,  
r for small roman type,  
p for instructions for preparing the printed version.

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ENDORSEMENT NOTICE

- p The text of the International Standard IEC 335-2-21:1989 including its amendments 1:1990 and 2:1990 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

- p Foreword Delete.  
Preface Delete.

2 **DEFINITIONS**

- p 2.2.102 Replace the explanation by:  
r Closed water heaters are shown schematically in figures 101 Ia and Ib.  
p 2.2.103 Replace the explanation by:  
r Cistern-fed water heaters are shown schematically in figure 101 II.  
p 2.2.104 Replace the explanation by:  
r Cistern-type water heaters are shown schematically in figure 101 III.  
p 2.2.105 Replace the explanation by:  
r Open-outlet water heaters are shown schematically in figure 101 IV.  
p 2.2.106 Replace the explanation by:  
r Vented water heaters are shown schematically in figure 101 V.

4 **GENERAL NOTES ON TESTS**

- p 4.3 Delete the explanation.

7 **MARKING**

- p 7.1 Replace the first paragraph by:  
R Water heaters shall be marked with rated pressure in bars.  
r The rated pressure may in addition be marked in pascals or newtons per square centimeter.

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COMMON MODIFICATIONS

- p Delete the explanation.
- Add after the warning in amendment 1:
- r This warning may be on a swing label.
- p Add:
- r Refer snc.
- p 7.12 Add:
- R The instruction sheet for closed water heaters shall give information of how and where a separately supplied pressure relief device is to be connected. If there are provisions to operate the pressure relief device by hand, the instruction sheet shall state that the pressure relief device must be operated regularly in order to prevent it from being blocked by lime deposits.
- The instruction sheet for water heaters having a capacity in excess of 15 l and not having a drain, shall state that means for draining must be incorporated in the water pipes.
- The instruction sheet for ordinary water heaters shall state that the national wiring rules may contain restrictions concerning their installation in bathrooms.
- 19 **ABNORMAL OPERATION**
- p 19.1 In the first sentence of the explanation replace "of an intentionally weak part" by "or an intentionally weak part".
- Add to the last paragraph:
- r The check valve may be incorporated in the pressure relief device.
- p 19.2 Add before the addition:
- i Modification:
- The statement that the test of 19.3 is not made, is not applicable.
- Add "short-circuited" at the end of the first paragraph of the addition.
- Add ", they are short-circuited in turn" at the end of the second paragraph of the addition.

COMMON MODIFICATIONS

- 22           **CONSTRUCTION**
- p 22.2       Delete the addition.
- 22.7        Replace "provided" by "fitted" in the first line of the requirement.
- 22.101     Replace "is" by "in" in the last line of the fourth paragraph.
- 22.109     Add "having a capacity in excess of 15 l" after "Water heaters" in the first line.
- 24           **COMPONENTS**
- p 24.102     Replace the requirement by:
- R            The operating temperature of the thermal cut-out of a closed water heater shall be such that the water temperature cannot exceed 130 °C.
- p            In the test specification, delete "either" and "or Sub-clause 24.104".
- 24.103     In amendment 1, delete "For the values of 130 °C and 140 °C,".
- 24.104     Delete.
- 24.105     Delete.

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ANNEX ZX (normative)

SPECIAL NATIONAL CONDITIONS

R Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions. If it affects harmonization, it forms part of the European Standard or Harmonization Document.

For the countries for which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

Clause            Special national condition

7.1                **DENMARK**

R                Water heaters of Class I shall be marked:

Skal ekstrabeskyttes, jf. stærkstrømsregl.

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

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ANNEX ZY (informative)

NATIONAL DEVIATIONS

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CENELEC member.

This European Standard falls under Directive 73/23/EEC.

NOTE (from CEN/CENELEC IR Part 2, 3.1.9): Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No G 59, 9.3.1982) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

<u>Clause</u>	<u>Deviation</u>
1.1	<p><b>AUSTRIA</b> (Dampfkesselverordnung - DKV, BGBl. Nr. 510/1986)</p> <p>Pressure vessels shall comply with the decree "Dampfkesselverordnung - DKV"</p> <p><b>DENMARK</b> (Danish Building Regulation, 1982, Chapter 12 - DS 439, Code of Practice for Domestic Water-Supply Installations; Order on Pressure vessels and pipe systems under pressure, No 746, 1987)</p> <p>The Ministry of Housing and the directory of National Labour Inspection have additional requirements.</p> <p><b>FINLAND</b> (98/73, Act on pressure vessels) <b>NORWAY</b> (Byggeforskrift 1987 punkt 46:31) <b>SWEDEN</b> (AFS 1988:11; Pressure vessels)</p> <p>Additional requirements are specified by the national authority responsible for the safety of pressure vessels.</p>
5.101	<p><b>DENMARK</b> (Danish Building Regulation, 1982, Chapter 12 - DS 439, Code of Practice for Domestic Water-Supply Installations)</p> <p><b>FINLAND</b> (370/58, 557/89, Building Act) <b>NORWAY</b> (Byggeforskrift 1987 punkt 46:31)</p> <p>For closed water heaters, the minimum rated pressure is 1 MPa (10 bar).</p>

22.7 **UNITED KINGDOM** (Building Regulations Section G3)

In addition to a non-resetting thermal cut-out any closed water heater having a storage capacity in excess of 15 l shall be fitted with a temperature relief valve to BS 6283 Part 2 or a combined temperature/pressure relief valve to BS 6283 Part 3.

22.102 **NORWAY** (Byggeforskrift 1987 punkt 46:31)

Closed water heaters shall be provided with two pressure relief devices. The valve type must be approved by "Arbeidstilsynets Kjelkontrol (National Labour Authorities).

24.102 **UNITED KINGDOM** (Building Regulations Section G3)

In any closed water heating sytem having a storage capacity in excess of 15 l adequate precautions shall be taken to prevent the water temperature of the stored water at any time exceeding 100 °C.

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NORME  
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**CEI  
IEC  
335-2-21**

Troisième édition  
Third edition  
1989-05

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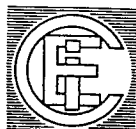
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**Sécurité des appareils électrodomestiques  
et analogues**

**Deuxième partie:  
Règles particulières pour  
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