SLOVENSKI STANDARD

SIST EN 61770:2000

izdaja
september 2000

Električne naprave, priključene na vodovod - Izogibanje povratnemu vodnemu toku in slabim pritrditvam cevi (IEC 61770:1998)

Electric appliances connected to the water mains - Avoidance of backspihonage and failure of hose-sets (IEC 61770:1998)

ICS 91.140.60; 97.030

Referenčna številka
SIST EN 61770:2000(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61770

December 1999

ICS 91.140.60; 97.030

Supersedes EN 50084:1992 and its amendment

English version

Electric appliances connected to the water mains Avoidance of backsiphonage and failure of hose-sets (IEC 61770:1998)

Appareils électriques raccordés au réseau d'alimentation en eau
Prescriptions pour éviter le retour d'eau par siphonnage et la défaillance des ensembles de raccordement
(CEI 61770:1998)

Elektrische Geräte zum Anschluß an die Wasserversorgungsanlage
Vermeidung von Rücksaugung und Fehlern bei Schlauchsätzen
(IEC 61770:1998)

This European Standard was approved by CENELEC on 1998-10-01. 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

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Ref. No. EN 61770:1999 E

Foreword

The text of document 61/1480/FDIS, future edition 1 of IEC 61770, prepared by IEC TC 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61770 on 1998-10-01.

This European Standard replaces EN 50084:1992 and its amendment A1:1998.

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) 2000-04-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2002-04-01

Normative references to International Standards with the reference of the corresponding European Standards are given in annex ZA.

National deviations from this European Standard are listed in annex ZB.

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

Annexes A and ZA are normative. Annex ZB is informative.

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 61770:1998 was approved by CENELEC as a European Standard without any modification.

p Add to the table of contents:

Annex ZA (normative) Normative references to international publications with their corresponding European publications

Annex ZB (informative) A-deviations

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60730-2-8 (mod)	1992	Automatic electrical controls for household and similar use Part 2: Particular requirements for electrically operated water valves, including mechanical requirements	EN 60730-2-8 + corr. July	1995 1997

Annex ZB (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/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 C 59; 1982-03-09) 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.

Clause	Deviation
1	**Denmark** (Approval Secretariat for water supply and water drainage materials, Ministry of Housing)

Washing machines and dishwashers for household use shall be so designed that they, in a sufficiently safe and reliable way, prevent flooding as a result of:
- uncontrolled water flow to the appliance, or
- blocked outlet of the appliance.

NOTE: For the purpose of this requirement, the term "appliance" also includes safety devices situated outside the appliance, for example those incorporated in the inlet hose, provided that the devices are fixed to the appliance and cannot be replaced without the aid of a tool.

Compliance is checked by inspection and by the following tests.

Test conditions

The appliance is placed on a plane inclined at an angle of 2° to the horizontal in the most unfavourable position of normal use with regard to the overflow from the appliance.

The appliance is operated at rated voltage.

If the appliance incorporates an adjustable thermostat the setting of which can be altered by the user, the thermostat is adjusted to the most unfavourable setting.

The appliance is connected to water supply in accordance with the manufacturer's instructions.

The static pressure of the water supply shall not exceed 1 MPa (10 bar). The dynamic pressure shall be at least 0,6 MPa (6 bar) before the connection device for the appliance when the inlet valve of the appliance is open.

The temperature of the inlet water
- for appliances intended for cold water supply shall not exceed 20 °C;
- for appliances intended for hot water supply shall be 65 °C ± 5 °C.

Appliances intended for both cold and hot water supply are tested with cold or hot water supply, whichever is the more unfavourable.

The outlet (drain hose) is arranged in accordance with the manufacturer's instructions. For appliances the outlet water of which is intended to be led into a sink, the hose height is to be the maximum permissible according to the manufacturer's instructions.

NOTE: Components which break down during one of the tests may be replaced before the next test is started.

Test procedures

1. Uncontrolled water flow to the appliance

The appliance is started, the most severe programme being chosen.
When the inlet valve is open for the second time, the valve is locked in the open position.

If another part of the programme is considered to be more critical, the appliance is instead started at this part of the programme and when the valve opens, it is locked in the open position.

The test is carried out for 8 h. However, the test is stopped if the appliance has shut off the water supply permanently or if more than 0,5 l of water has flown out from the appliance in another way than through the outlet.

NOTE: If there is doubt which programme or which part of the programme is the most critical, it may be necessary to carry out additional tests.

If inlet valves have additional functions or if the appliance incorporates one or more valves serving other purposes, for example safety, only one function or valve is blocked at a time, provided they operate during normal operation of the appliance and are mechanically independent of the inlet valve.

2. Blocked outlet of the appliance

The appliance is started, the most severe programme being chosen.
The outlet pipe of the appliance is blocked.

If the appliance is not able to operate a complete programme cycle with the outlet blocked, the outlet is blocked at the most critical part of the programme.

The test is carried out for 8 h. However, the test is stopped if the appliance has shut off the water supply permanently and the drainage pump has stopped to operate or if more than 0,5 l of water has flown out from the appliance.

NOTE: If there is doubt which programme or which part of the programme is the most critical, it may be necessary to carry out additional tests.

Criterion of the tests

During the tests, not more than 0,5 l of water shall flow out from the appliance.

Norway (Byggeforskrift 1987, Kap. 47:2)

Washing machines and dishwashers shall be provided with a device giving protection against flooding.

Sweden (New Building Regulation BFS 1995:17)

Fixed installed equipment connected to the water supply and placed in areas without floor drain shall be provided with a device giving protection against flooding.

United Kingdom (The England and Wales Water Supply (Water Fittings) Regulations 1999 and equivalent Water Byelaws in Scotland and Northern Ireland)

The following additional requirement applies:

Constructional materials of the appliance shall not adversely affect the quality of the water with which they may come into contact upstream of the backflow prevention device.

Compliance is checked by the tests specified in BS 6920.

4.1 **United Kingdom** (The England and Wales Water Supply (Water Fittings) Regulations 1999 and equivalent Water Byelaws in Scotland and Northern Ireland)

The following additional requirement applies:

The backflow prevention device shall be in accordance with the Secretary of State Specification for the Requirements for the Prevention of Backflow.

9.1.6 **United Kingdom** (The England and Wales Water Supply (Water Fittings) Regulations 1999 and equivalent Water Byelaws in Scotland and Northern Ireland)

As a consequence of the Water Supply (Water Fittings) Regulations 1999, hose-sets for hot water supply are tested at their maximum rated temperature, and at 1,2 times their maximum rated pressure.

9.1.7, 9.1.8 **United Kingdom** (The England and Wales Water Supply (Water Fittings) Regulations 1999 and equivalent Water Byelaws in Scotland and Northern Ireland)

As a consequence of the Water Supply (Water Fittings) Regulations 1999, hose-sets for hot water supply are tested at their maximum rated temperature, and at 1,5 times their maximum rated pressure.

9.3 **United Kingdom** (The England and Wales Water Supply (Water Fittings) Regulations 1999 and equivalent Water Byelaws in Scotland and Northern Ireland)

As a consequence of the Water Supply (Water Fittings) Regulations 1999, hose sets for hot water supply shall be marked with their maximum rated temperature and maximum rated pressure.

INTERNATIONAL STANDARD

IEC 61770

First edition
1998-10

Electric appliances connected to the water mains – Avoidance of backsiphonage and failure of hose-sets

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE K

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