

SLOVENSKI
STANDARD

**SIST EN 60335-2-
89:2003/A1:2005**

november 2005

Gospodinjski in podobni električni aparati - Varnost - 2-89. del: Posebne zahteve za komercialne hladilne naprave z vgrajeno ali zunanjo hladilno kondenzatorsko enoto ali kompresorjem (IEC 60335-2-89:2002/A1:2005)

Household and similar electrical appliances – Safety – Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor (IEC 60335-2-89:2002/A1:2005)

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ICS 13.120; 97.130.20

Referenčna številka
SIST EN 60335-2-89:2003/A1:2005(en)

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English version

**Household and similar electrical appliances –
Safety**
**Part 2-89: Particular requirements for commercial
refrigerating appliances with an incorporated or remote
refrigerant condensing unit or compressor**
(IEC 60335-2-89:2002/A1:2005)

Appareils électrodomestiques et
analogues –
Sécurité
Partie 2-89: Règles particulières
pour les appareils de réfrigération
à usage commercial avec une unité
de condensation du fluide frigorigène ou
un compresseur incorporés ou à distance
(CEI 60335-2-89:2002/A1:2005)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-89: Besondere Anforderungen
für gewerbliche Kühl-/Gefriergeräte
mit eingebautem oder getrenntem
Verflüssigersatz oder Motorverdichter
(IEC 60335-2-89:2002/A1:2005)

<https://standards.iteh.ai/catalog/standards/sist/d2976d2c-cb47-4fa8-963b-0b11eaa3b9ab/sist-en-60335-2-89-2003-a1-2005>

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This amendment A1 modifies the European Standard EN 60335-2-89:2002; it was approved by CENELEC on 2005-02-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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

Foreword

The text of document 61C/290/FDIS, future amendment 1 to IEC 60335-2-89:2002, prepared by SC 61C of the IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-2-89:2002 on 2005-02-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-12-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2008-02-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-89:2002.

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

There are no national deviations from this amendment.

- p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

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Endorsement notice

SIST EN 60335-2-89:2003/A1:2005

The text of amendment 1:2005 to the International Standard IEC 60335-2-89:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

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- p Add:

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Replace the reference to IEC/TR 60079-15:1987 by:</i>				
IEC 60079-15	2005	Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection "n" electrical apparatus	EN 60079-15	– ³⁾

³⁾ To be published.

NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60335-2-89

2002

AMENDEMENT 1
AMENDMENT 1
2005-02

Amendement 1

**Appareils électrodomestiques et analogues –
Sécurité –**

Partie 2-89:

**Règles particulières pour les appareils de
réfrigération à usage commercial avec une unité
de condensation du fluide frigorigène ou un
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[SIST EN 60335-2-89:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/d2976d2c-cb47-4fa8-963b-0b11e9e3b9ab/sist-en-60335-2-89-2003-a1-2005)

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[0b11e9e3b9ab/sist-en-60335-2-89-2003-a1-2005](https://standards.iteh.ai/catalog/standards/sist/d2976d2c-cb47-4fa8-963b-0b11e9e3b9ab/sist-en-60335-2-89-2003-a1-2005)

Amendment 1

**Household and similar electrical appliances –
Safety –**

Part 2-89:

**Particular requirements for commercial
refrigerating appliances with an incorporated
or remote refrigerant condensing unit
or compressor**

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Commission Electrotechnique Internationale
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FOREWORD

This amendment has been prepared by subcommittee 61C: Household appliances for refrigeration, of IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61C/290/FDIS	61C/301/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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The contents of the corrigendum of June 2005 have been included in this copy.

SIST EN 60335-2-89:2003/A1:2005

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CONTENTS

Add the following new title to the list of annexes:

Annex BB (normative) Non-sparking “n” electrical apparatus

INTRODUCTION

Replace the second sentence of the second paragraph by the following:

It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

1 Scope

Add, at the end of this clause, the following new Note 104:

NOTE 104 Appliances with a charge of more than 150 g of **flammable refrigerant** in each separate refrigerant circuit are not covered by this standard. For appliances with a charge greater than 150 g of **flammable refrigerant** in each refrigerant circuit and for the installation, ISO 5149 may be applied. Consequently, such appliances cannot be assessed for safety using this part 2.

2 Normative references

Replace the existing reference to IEC 60079-15:1987 by the following:

IEC 60079-15:___¹ *Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection, “n” electrical apparatus*

6 Classification

6.101 Delete the first paragraph, including the four dash items.

7 Marking and instructions

7.12 Addition:

Add the following new paragraphs at the end of 7.12 (prior to 7.12.1):

An explanation shall be given of the meaning of the alpha-numeric characters, indicating the climatic class of the appliance, that are marked on the appliance.

The instructions for split-systems that use a **flammable refrigerant** shall include the substance of the following warning.

WARNING: In order to reduce flammability hazards the installation of this appliance must only be carried out by a suitably qualified person.

7.15 Replace the last paragraph of the addition by the following:

For appliances which use **flammable refrigerant**, the marking of the type of **flammable refrigerant** and of the flammable insulation blowing gas, shall be visible when gaining access to the motor-compressors, and, in the case of appliances with a remote **refrigerant condensing unit**, the pipe connections.

The warning sign B.3.2 from ISO 3864 shall be placed on the nameplate of the unit near the declaration of the refrigerant type and charge information, It shall be visible after installation of the appliance.

20 Stability and mechanical hazards

Delete the existing text of Clause 20, and substitute the following text:

This clause of Part 1 is applicable except as follows.

20.1 Modification:

The appliance is tested empty when tilted through an angle of 5° instead of an angle of 10°.

The test with the appliance tilted to 15° is not carried out.

¹ This future third edition of IEC 60079-15 is currently circulating as an FDIS to the National Committees.

Addition:

The test is repeated with doors, lids and similar parts placed in the most unfavourable position; however, the appliance is only tilted to an angle of 5°.

21 Mechanical hazards

Number the addition as 21.1.

22 Construction

22.104 *In the requirement (first paragraph), replace "thermally toughened glass" by "glass that shatters in small pieces when broken".*

22.106.1 *Replace the ninth paragraph (between Note 3 and Note 4) with the following:*

*The concentration of leaked refrigerant is measured at least every 30 s from the beginning of the test and for at least 1 h after injection of the gas has stopped, inside and outside the food storage compartment, as close as possible to electrical components which, during **normal operation** or abnormal operation, produce sparks or arcs.*

The concentration is not measured close to

- **non-self-resetting protective devices** necessary for compliance with Clause 19 even if they produce arcs or sparks during operation,
- intentionally weak parts that become permanently open-circuited during the tests of Clause 19 even if they produce arcs or sparks during operation,
- electrical apparatus that has been tested and found to comply with at least the requirements in Annex BB

22.107 *Replace the requirement by the following:*

For compression-type appliances with unprotected cooling systems and which use **flammable refrigerants**, any electrical component located inside the food storage compartment, which during **normal operation** or abnormal operation produces arcs or sparks, and luminaries, shall be tested and found at least to comply with the requirements of Annex BB for group IIA gases or the refrigerant used.

This requirement does not apply to

- **non-self-resetting protective devices** necessary for compliance with Clause 19, nor to
- intentionally weak parts that become permanently open-circuited during the tests of Clause 19,

even if they produce arcs or sparks during operation.

Refrigerant leakage into food storage compartments shall not result in an explosive atmosphere outside the food storage compartments in areas where electrical components that produce arcs and sparks during **normal operation** or abnormal operation, or luminaries are mounted, when doors or lids remain closed or when opening or closing doors or lids, unless these components have been tested and found at least to comply with Annex BB for group IIA gases or the refrigerant used.

This requirement does not apply to

- **non-self-resetting protective devices** necessary for compliance with Clause 19, nor to
- intentionally weak parts that become permanently open-circuited during the tests of Clause 19,

even if they produce arcs or sparks during operation

Delete Note 4.

Replace Note 5 by the following:

NOTE 4 Changing of a lamp is not considered a potential explosion hazard, because the door or lid is open during this operation.

Replace Note 6 by the following:

NOTE 5 The tests contained in Annex BB may be carried out using the stoichiometric concentration of the refrigerant used. However, apparatus which has been independently tested and found to comply with Annex BB using the gas specified for group IIA need not be tested.

Replace Note 7 by the following:

NOTE 6 Irrespective of the requirement given in 5.4 of IEC 60079-15, Ed.3, surface temperature limits are specified in 22.109. <https://standards.iteh.ai/catalog/standards/sist/d2976d2c-cb47-4fa8-963b-0b11eaa3b9ab/sist-en-60335-2-89-2003-a1-2005>

Replace the eighth paragraph of the test specification beginning with "The concentration" by the following:

The concentration of leaked refrigerant is measured every 30 s from the beginning of the test, at positions as close as possible to electrical components. However, it is not measured at the positions of

- **non-self-resetting protective devices** necessary for compliance with Clause 19, nor to
- intentionally weak parts that become permanently open-circuited during the tests of Clause 19,

even if they produce arcs or sparks during operation.

22.108 *Replace the requirement (first paragraph) by the following:*

Compression-type appliances which use **flammable refrigerants** shall be constructed so that leaked refrigerant will not stagnate and thus cause a fire or explosion hazard in areas outside the food storage compartments where components producing arcs or sparks or luminaires are mounted.