



NSAI
Standards

Irish Standard
I.S. EN 60335-2-
86:2003&A1:2005&A11:2016...A12:2017

Household and similar electrical appliances - Safety - Part 2-86: Particular requirements for electric fishing machines

I.S. EN 60335-2-86:2003&A1:2005&A11:2016...A12:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 60335-2-86:2003/A1:2005
EN 60335-2-86:2003/A11:2016
EN 60335-2-86:2003/A2:2016
EN 60335-2-86:2003/A12:2017

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

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National Foreword

I.S. EN 60335-2-86:2003&A1:2005&A11:2016...A12:2017 is the adopted Irish version of the European Document EN 60335-2-86:2003, Household and similar electrical appliances - Safety - Part 2-86: Particular requirements for electric fishing machines

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

EN 60335-2-86:2003/A12

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2017

ICS 65.150

English Version

Household and similar electrical appliances - Safety - Part 2-86: Particular requirements for electric fishing machines

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-86: Règles particulières pour les équipements
électriques de pêche

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-86: Besondere Anforderungen für
elektrische Fischereigeräte

This amendment A12 modifies the European Standard EN 60335-2-86:2003; it was approved by CENELEC on 2017-07-12. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60335-2-86:2003/A12:2017 (E)

European foreword

This document (EN 60335-2-86:2003/A12:2017) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this (dop) 2018-07-12
document has to be implemented
at national level by publication of
an identical national standard or
by endorsement
- latest date by which the national (dow) 2020-07-12
standards conflicting with this
document have to be withdrawn

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

EUROPEAN STANDARD

EN 60335-2-86:2003/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 65.150

English Version

**Household and similar electrical appliances - Safety - Part 2-86:
Particular requirements for electric fishing machines
(IEC 60335-2-86:2002/A2:2012)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-86: Règles particulières pour les équipements
électriques de pêche
(IEC 60335-2-86:2002/A2:2012)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-86: Besondere Anforderungen für
elektrische Fischereigeräte
(IEC 60335-2-86:2002/A2:2012)

This amendment A2 modifies the European Standard EN 60335-2-86:2003; it was approved by CENELEC on 2012-11-29. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60335-2-86:2003/A2:2016 (E)

European foreword

The text of document 61H/270/CDV, future edition 1 of IEC 60335-2-86:2002/A2, prepared by SC 61H, "Safety of electrically-operated farm appliances", of IEC TC 61, "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60335-2-86:2003/A2:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-08-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-02-19

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60335-2-86:2002/A2:2012 was approved by CENELEC as a European Standard without any modification.

EUROPEAN STANDARD

EN 60335-2-86:2003/A11

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2016

ICS 65.150

English Version

Household and similar electrical appliances - Safety - Part 2-86: Particular requirements for electric fishing machines

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-86: Règles particulières pour les équipements
électriques de pêche

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-86: Besondere Anforderungen für
elektrische Fischereigeräte

This amendment A11 modifies the European Standard EN 60335-2-86:2003; it was approved by CENELEC on 2015-11-16. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60335-2-86:2003/A11:2016 (E)

European foreword

This document (EN 60335-2-86:2003/A11:2016) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-11-16
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2018-11-16

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2012 and EN 60335-2-86:2003 + A1:2005.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive 2006/42/EC, see informative Annex ZZ, which is an integral part of this document.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-86/A1

June 2005

ICS 65.150

English version

**Household and similar electrical appliances –
Safety
Part 2-86: Particular requirements for electric fishing machines
(IEC 60335-2-86:2002/A1:2005)**

Appareils électrodomestiques
et analogues –
Sécurité
Partie 2-86: Règles particulières
pour les équipements électriques
de pêche
(CEI 60335-2-86:2002/A1:2005)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-86: Besondere Anforderungen
für elektrische Fischereigeräte
(IEC 60335-2-86:2002/A1:2005)

This amendment A1 modifies the European Standard EN 60335-2-86:2003; it was approved by CENELEC on 2005-05-01. 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.

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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 text of document 61H/219/FDIS, future amendment 1 to IEC 60335-2-86:2002, prepared by SC 61H 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 60335-2-86:2003 on 2005-05-01.

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) 2006-02-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2008-05-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-86:2003.

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

There are no national deviations from this amendment.

Endorsement notice

The text of amendment 1:2005 to the International Standard IEC 60335-2-86:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

EUROPEAN STANDARD

EN 60335-2-86

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2003

ICS 65.150

Supersedes EN 60335-2-86:2000

English version

**Household and similar electrical appliances –
Safety
Part 2-86: Particular requirements for electric fishing machines
(IEC 60335-2-86:2002, modified)**

Appareils électrodomestiques et analogues –
Sécurité
Partie 2-86: Règles particulières
pour les équipements électriques de pêche
(CEI 60335-2-86:2002, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-86: Besondere Anforderungen für
elektrische Fischereigeräte
(IEC 60335-2-86:2002, modifiziert)

This European Standard was approved by CENELEC on 2003-03-01. 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.

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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 text of document 61H/165/FDIS, future second edition of IEC 60335-2-86, prepared by SC 61H of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote.

As a result of the Kista meeting of CENELEC TC 61 in May 2002, a draft amendment prAA containing the relevant existing common modifications was submitted to the formal vote.

The texts of the FDIS and the prAA were approved by CENELEC as a new edition of EN 60335-2-86 on 2003-03-01.

This European Standard replaces EN 60335-2-86:2000.

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) 2004-03-01
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2007-08-01

This part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 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 electric fishing machines.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

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

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

Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 98/37/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-86:2002 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 Scope

p Add to note 102:

- in some countries the use of **portable electric fishing machines** for catching fish is only allowed for research purposes.

p Add:

Annex ZB (informative)

A-deviations

Addition:

| <u>Clause</u> | <u>Deviation</u> |
|---------------|------------------|
|---------------|------------------|

| | |
|---------------|---|
| 22.101 | Germany (Landesfischereiverordnung (LFischVO)) |
|---------------|---|

The use of alternating current for catching fish is not allowed.

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> |
|--------------------|-------------|--|---------------|-------------|
| IEC 60068-2-52 | 1996 | Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution) | EN 60068-2-52 | 1996 |
| IEC 61558-2-4 | 1997 | Safety of power transformers, power supply units and similar – Part 2-4: Particular requirements for isolating transformers for general use | EN 61558-2-4 | 1997 |

INTERNATIONAL STANDARD

IEC
60335-2-86

Second edition
2002-03

Household and similar electrical appliances – Safety –

Part 2-86: Particular requirements for electric fishing machines

*Appareils électrodomestiques et analogues –
Sécurité –*

*Partie 2-86:
Règles particulières pour les équipements électriques
de pêche*



Reference number
IEC 60335-2-86:2002(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

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- **Catalogue of IEC publications**
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INTERNATIONAL STANDARD

IEC
60335-2-86

Second edition
2002-03

Household and similar electrical appliances – Safety –

Part 2-86: Particular requirements for electric fishing machines

*Appareils électrodomestiques et analogues –
Sécurité –*

*Partie 2-86:
Règles particulières pour les équipements électriques
de pêche*

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

R

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-86: Particular requirements for electric fishing 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 co-operation 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 express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, 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.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

This part of International Standard IEC 60335 has been prepared by sub-committee 61H: Safety of electrically-operated farm appliances, of IEC technical committee 61: Safety of household and similar electrical appliances.

This second edition cancels and replaces the first edition published in 1998. It constitutes a technical revision.

The text of this part of IEC 60335 is based on the following documents:

| FDIS | Report on voting |
|--------------|------------------|
| 61H/165/FDIS | 61H/170/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 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

Note 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for electric fishing machines.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

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- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and associated noun are also in bold.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date the publication will be

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

The following differences exist in the countries indicated below:

- 1: The use of electric fishing machines is limited to research purposes only (Denmark, Finland, Sweden).

INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-86: Particular requirements for electric fishing machines

1 Scope

This clause of Part 1 is replaced by the following.

This standard deals with the safety of **electric fishing machines** by means of which water may be electrified for the purpose of catching fish or for providing barriers to all animals living in water.

The **rated voltage** of **portable electric fishing machines** is not more than 250 V and the **rated voltage** of **fixed electric fishing machines** for permanent connection to fixed wiring is not more than 1 000 V.

NOTE 101 Examples of **electric fishing machines** coming within the scope of this standard are:

- **mains-operated electric fishing machines** which include those supplied from portable or stationary generator sets;
- **battery-operated electric fishing machines**.

NOTE 102 Attention is drawn to the fact that

- for appliances intended to be used on board ships or boats, 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.

NOTE 103 This standard does not apply to

- electric fence energizers (IEC 60335-2-76);
- electric animal stunning equipment (IEC 60335-2-87).

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60068-2-52:1996, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 61558-2-4:1997, *Safety of power transformers, power supply units and similar – Part 2: Particular requirements for isolating transformers for general use*

3 Definitions

This clause of Part 1 is applicable except as follows.

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