

Nederlandse norm

# NEN-EN-IEC 60335-2-106

(en; fr)

Household and similar electrical appliances - Safety - Part 2-106. Particular requirements for heated carpets and for heating units for room heating installed under removable floor coverings (IEC 60335-2-106:2007, IDT)

ICS 13.120; 97.100.10

november 2007

Als Nederlandse norm is aanvaard:

- EN 60335-2-106:2007, IDT
- IEC 60335-2-106:2007, IDT

VOORBEELD  
PREVIEW

Nederlands Elektrotechnisch Comité (NEC)  
Normcommissie 361 061 "Veiligheid van huishoudelijke toestellen (NEC 61)"

---

Apart from exceptions provided by the law, nothing from this publication may be duplicated and/or published by means of photocopy, microfilm, storage in computer files or otherwise, which also applies to full or partial processing, without the written consent of the Netherlands Standardization Institute.

The Netherlands Standardization Institute shall, with the exclusion of any other beneficiary, collect payments owed by third parties for duplication and/or act in and out of law, where this authority is not transferred or falls by right to the Reproduction Rights Foundation.

---

Auteursrecht voorbehouden. Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Nederlands Normalisatie-instituut niets uit deze uitgave worden verveelvoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor verveelvoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

---

Although the utmost care has been taken with this publication, errors and omissions cannot be entirely excluded. The Netherlands Standardization Institute and/or the members of the committees therefore accept no liability, not even for direct or indirect damage, occurring due to or in relation with the application of publications issued by the Netherlands Standardization Institute.

---

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdend met toepassing van door het Nederlands Normalisatie-instituut gepubliceerde uitgaven.

## Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
IEC 60884-1:2002	-	-

Voorbeeld  
Preview

Voorbeeld  
Preview

English version

**Household and similar electrical appliances -  
Safety -  
Part 2-106: Particular requirements for heated carpets  
and for heating units for room heating  
installed under removable floor coverings  
(IEC 60335-2-106:2007)**

Appareils électrodomestiques  
et analogues -  
Sécurité -  
Partie 2-106: Règles particulières  
pour les tapis chauffants  
et les unités chauffantes installées  
sous des revêtements de sol amovibles,  
pour le chauffage des locaux  
(CEI 60335-2-106:2007)

Sicherheit elektrischer Geräte  
für den Hausgebrauch  
und ähnliche Zwecke -  
Teil 2-106: Besondere Anforderungen  
für beheizte Teppiche und für  
Heizsysteme zur Raumheizung  
unter abnehmbaren  
Fußbodenbelägen  
(IEC 60335-2-106:2007)

This European Standard was approved by CENELEC on 2007-05-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 61/3220/FDIS, future edition 1 of IEC 60335-2-106, prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-106 on 2007-05-01.

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) 2008-02-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2010-05-01

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 heated carpets and for heating units for room heating installed under removable floor coverings.

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.

Special national conditions causing a deviation from this European Standard are listed in Annex ZA and are in addition to those in EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to 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, 2006/95/EC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 2006/42/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 60335-2-106:2007 was approved by CENELEC as a European Standard without any modification.

---

## Bibliography

p Add the following notes to the standards mentioned:

IEC 60335-2-17: NOTE Harmonized as EN 60335-2-17:2002 (not modified).

IEC 60335-2-81: NOTE Harmonized as EN 60335-2-81:2003 (not modified).

IEC 60335-2-96: NOTE Harmonized as EN 60335-2-96:2002 (not modified).

ISO 13732-1: NOTE Harmonized as EN ISO 13732-1:2006 (not modified).

p Add:

## Annex ZA (normative)

### Special national conditions

*Addition:*

Clause      Special national condition

General      **Finland**

Only Class III heating units are allowed.

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>
IEC 60884-1	2002	Plugs and socket-outlets for household and similar purposes – Part 1: General requirements	–	–

Copyright  
Preview



**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60335-2-106**

Première édition  
First edition  
2007-02

---

---

**Appareils électrodomestiques et analogues –  
Sécurité –**

**Partie 2-106:  
Règles particulières pour les tapis chauffants  
et les unités chauffantes installées sous des  
revêtements de sol amovibles, pour le  
chauffage des foyers**

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

**Part 2-106:  
Particular requirements for heated carpets and for  
heating units for room heating installed under  
removable floor coverings**



Numéro de référence  
Reference number  
CEI/IEC 60335-2-106:2007

## Numérotation des publications

Depuis le 1er janvier 1997, les publications de la CEI sont numérotées à partir de 60000. Ainsi, la CEI 34-1 devient la CEI 60034-1.

## Editions consolidées

Les versions consolidées de certaines publications de la CEI incorporant les amendements sont disponibles. Par exemple, les numéros d'édition 1.0, 1.1 et 1.2 indiquent respectivement la publication de base, la publication de base incorporant l'amendement 1, et la publication de base incorporant les amendements 1 et 2.

## Informations supplémentaires sur les publications de la CEI

Le contenu technique des publications de la CEI est constamment revu par la CEI afin qu'il reflète l'état actuel de la technique. Des renseignements relatifs à cette publication, y compris sa validité, sont disponibles dans le Catalogue des publications de la CEI (voir ci-dessous) en plus des nouvelles éditions, amendements et corrigenda. Des informations sur les sujets à l'étude et l'avancement des travaux entrepris par le comité d'études qui a élaboré cette publication, ainsi que la liste des publications parues, sont également disponibles par l'intermédiaire de:

- Site web de la CEI ([www.iec.ch](http://www.iec.ch))
- Catalogue des publications de la CEI

Le catalogue en ligne sur le site web de la CEI ([www.iec.ch/searchpub](http://www.iec.ch/searchpub)) vous permet de faire des recherches en utilisant de nombreux critères, comprenant des recherches textuelles, par comité d'études ou date de publication. Des informations en ligne sont également disponibles sur les nouvelles publications, les publications remplacées ou retirées, ainsi que sur les corrigenda.

- IEC Just Published

Ce résumé des dernières publications parues ([www.iec.ch/online\\_news/justpub](http://www.iec.ch/online_news/justpub)) est aussi disponible par courrier électronique. Veuillez prendre contact avec le Service client (voir ci-dessous) pour plus d'informations.

- Service clients

Si vous avez des questions au sujet de cette publication ou avez besoin de renseignements supplémentaires, prenez contact avec le Service clients:

Email: [custserv@iec.ch](mailto:custserv@iec.ch)  
Tél: +41 22 919 02 11  
Fax: +41 22 919 03 00

## 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:

- IEC Web Site ([www.iec.ch](http://www.iec.ch))
- Catalogue of IEC publications

The on-line catalogue on the IEC web site ([www.iec.ch/searchpub](http://www.iec.ch/searchpub)) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.

- IEC Just Published

This summary of recently issued publications ([www.iec.ch/online\\_news/justpub](http://www.iec.ch/online_news/justpub)) is also available by email. Please contact the Customer Service Centre (see below) for further information.

- Customer Service Centre

If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

Email: [custserv@iec.ch](mailto:custserv@iec.ch)  
Tel: +41 22 919 02 11  
Fax: +41 22 919 03 00

**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60335-2-106**

Première édition  
First edition  
2007-02

---

---

**Appareils électrodomestiques et analogues –  
Sécurité –**

**Partie 2-106:  
Règles particulières pour les tapis chauffants  
et les unités chauffantes installées sous des  
revêtements de sol amovibles, pour le  
chauffage des foyers**

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

**Part 2-106:  
Particular requirements for heated carpets and for  
heating units for room heating installed under  
removable floor coverings**

© IEC 2007 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland  
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

**W**

*Pour prix, voir catalogue en vigueur  
For price, see current catalogue*

## SOMMAIRE

AVANT-PROPOS .....	6
INTRODUCTION .....	10
1 Domaine d'application .....	12
2 Références normatives .....	12
3 Définitions .....	12
4 Exigences générales .....	14
5 Conditions générales d'essais .....	14
6 Classification .....	16
7 Marquage et instructions .....	16
8 Protection contre l'accès aux parties actives .....	20
9 Démarrage des appareils à moteur .....	22
10 Puissance et courant .....	22
11 Echauffements .....	22
12 Vacant .....	26
13 Courant de fuite et rigidité diélectrique à la température de régime .....	26
14 Surtensions transitoires .....	26
15 Résistance à l'humidité .....	26
16 Courant de fuite et rigidité diélectrique .....	28
17 Protection contre la surcharge des transformateurs et des circuits associés .....	28
18 Endurance .....	28
19 Fonctionnement anormal .....	34
20 Stabilité et dangers mécaniques .....	38
21 Résistance mécanique .....	38
22 Construction .....	42
23 Conducteurs internes .....	46
24 Composants .....	46
25 Raccordement au réseau et câbles souples extérieurs .....	48
26 Bornes pour conducteurs externes .....	48
27 Dispositions en vue de la mise à la terre .....	48
28 Vis et connexions .....	50
29 Distances dans l'air, lignes de fuite et isolation solide .....	50
30 Résistance à la chaleur et au feu .....	50
31 Protection contre la rouille .....	54
32 Rayonnement, toxicité et dangers analogues .....	54
Annexes .....	72
Bibliographie .....	74

# Bestelformulier

# NEN

## Stuur naar:

NEN Standards Products & Services  
t.a.v. afdeling Klantenservice  
Antwoordnummer 10214  
2600 WB Delft

## NEN Standards Products & Services

Postbus 5059  
2600 GB Delft

Vlinderweg 6  
2623 AX Delft

T (015) 2 690 390  
F (015) 2 690 271

[www.nen.nl/normshop](http://www.nen.nl/normshop)

## Ja, ik bestel

\_\_ ex. NEN-EN-IEC 60335-2-106:2007 en;fr Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-106: Bijzondere eisen voor vloerverwarming en voor ruimteverwarming geïnstalleerd onder verwijderbare vloerbedekkingen € 181.14

**Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via [www.nen.nl/normshop](http://www.nen.nl/normshop)**

### Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. [www.nen.nl/nieuwsbrieven](http://www.nen.nl/nieuwsbrieven)

### Retourneren

Fax: (015) 2 690 271  
E-mail: [klantenservice@nen.nl](mailto:klantenservice@nen.nl)  
Post: NEN Standards Products & Services,  
t.a.v. afdeling Klantenservice  
Antwoordnummer 10214,  
2600 WB Delft  
(geen postzegel nodig).

## Gegevens

Bedrijf / Instelling \_\_\_\_\_

T.a.v. \_\_\_\_\_ O M O V

E-mail \_\_\_\_\_

Klantnummer NEN \_\_\_\_\_

Uw ordernummer \_\_\_\_\_ BTW nummer \_\_\_\_\_

Postbus / Adres \_\_\_\_\_

Postcode \_\_\_\_\_ Plaats \_\_\_\_\_

Telefoon \_\_\_\_\_ Fax \_\_\_\_\_

**Factuuradres** (indien dit afwijkt van bovenstaand adres)

Postbus / Adres \_\_\_\_\_

Postcode \_\_\_\_\_ Plaats \_\_\_\_\_

Datum \_\_\_\_\_ Handtekening \_\_\_\_\_

### Voorwaarden

- De prijzen zijn geldig tot 31 december 2016, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon (015) 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typfouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: [www.nen.nl/leveringsvoorwaarden](http://www.nen.nl/leveringsvoorwaarden).