Irish Standard
I.S. EN 50366:2003

Household and similar electrical appliances - Electromagnetic fields - Methods for evaluation and measurement

I.S. EN 50366:2003

Incorporating amendments/corrigenda issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EN 50366/IS1

Interpretation Sheet 1

EN 50366:2003 + A1:2006

English version

Foreword

This Interpretation Sheet to the European Standard EN 50366:2003 and its A1:2006 was prepared by the Technical Committee CENELEC TC 61, Safety of household and similar appliances, during the meeting in Milano, November 2006, document CLC/TC 61(SEC)1586+A. The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC on 2009-09-18.

Clause 1, Scope

Interpretation:

While there are some editorial differences between the scopes of EN 50366:2003 and its amendment A1:2006 and EN 62233:2008 (IEC 62233:2005, modified) it was never intended that these standards should cover different products. Therefore the scope of EN 62233:2008, including exclusions, applies equally to EN 50366:2003 and to EN 50366:2003/A1:2006.

October 2009

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National Standards Authority of Ireland

AMENDMENT

I.S. EN 50366/A1:2006

ICS 17.220.20

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES - ELECTROMAGNETIC FIELDS - METHODS FOR EVALUATION AND MEASUREMENT

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
http://www.nsai.ie

Sales
http://www.standards.ie

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50366/A1

April 2006

ICS 17.220.20

English version

Household and similar electrical appliances - Electromagnetic fields - Methods for evaluation and measurement

Appareils électrodomestiques et analogues - Champs électromagnétiques - Méthodes d'évaluation et de mesure

Elektrische Geräte für den Hausgebrach und ähnliche Zwecke - Elektromagnetische Felder - Verfahren zur Bewertung und Messung

This amendment A1 modifies the European Standard EN 50366:2003; it was approved by CENELEC on 2005-11-01. 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, 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

Ref. No. EN 50366:2003/A1:2006 E

Foreword

A proposal of the joint experts group of the Technical Committees CENELEC TC 61 and CENELEC TC 106X, document CLC/TC 61(SEC)1469, to amend EN 50366:2003 was discussed during the CENELEC TC 61 Balsthal meeting in June 2004.

The resulting draft amendment was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 50366:2003 on 2005-11-01.

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)	2006-11-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2008-11-01

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EUROPEAN STANDARD **EN 50366**

NORME EUROPÉENNE

EUROPÄISCHE NORM May 2003

ICS 17.220.20

English version

Household and similar electrical appliances – Electromagnetic fields – Methods for evaluation and measurement

Appareils électrodomestiques et analogues – Champs électromagnétiques – Méthodes d'évaluation et de mesure

Elektrische Geräte für den Hausgebrauch und ähnliche Zwecke – Elektromagnetische Felder – Verfahren zur Bewertung und Messung

This European Standard was approved by CENELEC on 2003-02-01. 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.

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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

Ref. No. EN 50366:2003 E

Foreword

A proposal for a standard dealing with the evaluation and measurement of electromagnetic fields around household and similar electrical appliances was prepared by a joint group of experts representing TC 61, Safety of household and similar electrical appliances, and TC 106X, Electromagnetic fields in the human environment. Document CLC/TC 61(Sec)1292, was circulated under the enquiry procedure in October 2000. The results of the enquiry were discussed during the Delft meeting in May 2001, when it was decided to prepare a new draft. This new draft, document CLCL/TC 61(Sec)1335, was discussed during the Paris meeting in November 2001, when it was decided to submit a new draft to the Unique Acceptance Procedure.

This draft was circulated in April 2002 and was approved by CENELEC as EN 50366 on 2003-02-01.

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) 2004-02-01

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

This European Standard has been prepared under mandate M/305 given to CENELEC by the European Commission and the European Free Trade Association and supports the principal objectives of the Low Voltage Directive 73/23/EEC.

Annexes A and C are normative and annexes B, D, E and F are informative.

NOTE 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.

Contents

INTRODUCTION

This standard establishes a suitable evaluation method for determining the electromagnetic fields in the space around household and similar electrical appliances and defines standardized operating conditions and **measuring distances**. It provides a method to show compliance with the European Council Recommendation 1999/519/EC concerning human exposure to electromagnetic fields.

NOTE 1 The fact that magnetic fields in the surrounding space of a household appliance are non-homogeneous has to be taken into account. For household appliances, magnetic flux densities are at their highest on the appliance surfaces and decrease with increasing distance r from the appliance surface by at least $1/r$.

For evaluating the risk of magnetic flux densities the $1/r$ reduction in magnitude represents a worst-case assumption. The magnetic flux density is obtained by:

$$B(r) = \frac{c}{r + r_0}$$

where

$B(r)$ is the magnetic flux density,

c is a constant,

r is the distance from the appliance surface,

r_0 is the distance between the field source and the appliance surface.

NOTE 2 The reference levels of the recommendation are derived for homogeneous fields and for whole-body exposure to larger field sources, such as high voltage transmission lines. The magnetic fields surrounding household appliances are restricted to small parts of the body, e.g. hands and limbs.

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

1 Scope

This European Standard deals with electromagnetic fields and defines methods for evaluating the electric field and the magnetic field for frequencies up to 300 GHz around household and similar electrical appliances.

The methods also apply to appliances not intended for normal household use, but which nevertheless may be accessible to the general public, such as appliances intended to be used by laymen in shops, in light industry and on farms.

NOTE The methods are not suitable for comparing the fields from different appliances.

2 Normative references

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).

EN 60335 series, Household and similar electrical appliances - Safety

3 Definitions

For the purpose of this standard the following definitions apply.

3.1
basic restriction
restriction, based on established health effects, of exposure to time-varying electric fields and magnetic fields

3.2
reference level
r.m.s. value of the magnetic field strength of homogeneous fields, derived from the **basic restriction**, to which a person may be exposed without adverse effects

3.3
measuring distance
distance between the surface of the appliance and the closest point of the sensor surface

3.4
operator distance
distance between the surface of the appliance and the closest point of the head or torso of the operator

3.5
hot spot
localized area of high magnetic field due to irregularities of the field distribution

3.6
coupling factor
factor taking into account the irregularities of the magnetic fields around appliances and the dimensions of a part of the human body