



SLOVENSKI STANDARD
SIST EN 50366:2004/A1:2006
01-julij-2006

; cgdcX]b'g_]']b'dcXcVb]`YY_f] b]`UdUfUf]!'9`Y_fca U] bYfbUdc`'U!'A YfcXY'nU
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Household and similar electrical appliances - Electromagnetic fields - Methods for
evaluation and measurement

Elektrische Gerte fr den Hausgebrauch und hnliche Zwecke - Elektromagnetische Felder -
Verfahren zur Bewertung und Messung

iTeh STANDARD PREVIEW

Appareils lectrodomestiques et analogues - Champs lectromagnétiques - Mthodes
d'valuation et de mesure

[SIST EN 50366:2004/A1:2006](https://standards.iteh.ai/catalog/standards/sist/43b9f4eb-c8a5-4ff0-9dab-5d47062a2254/sist-en-50366-2004-a1-2006)

Ta slovenski standard je istoveten z: [EN 50366:2003/A1:2006](https://standards.iteh.ai/catalog/standards/sist/43b9f4eb-c8a5-4ff0-9dab-5d47062a2254/sist-en-50366-2004-a1-2006)

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EUROPEAN STANDARD

EN 50366/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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 Hausgebrauch
und ähnliche Zwecke -
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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

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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2 Normative references

Add:

EN 55014-1, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission (CISPR 14-1)

3 Definitions

3.1 *Replace the definition by:*

restriction, based on established health effects, of exposure to electric, magnetic and electromagnetic fields including a safety factor

3.2 *Replace the definition by:*

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

3.5 *Replace the definition by:*

localized area with the highest field strength due to irregularities of the field distribution

4 Measuring methods

4.1 *Replace the text by:*

[SIST EN 50366:2004/A1:2006
https://standards.iteh.ai/catalog/standards/sist/43b9f4eb-c8a5-4ff0-9dab-5d476b5a2254/sist-en-50366-2004-a1-2006](https://standards.iteh.ai/catalog/standards/sist/43b9f4eb-c8a5-4ff0-9dab-5d476b5a2254/sist-en-50366-2004-a1-2006)

A measuring method is under consideration.

Appliances having no internal voltage above 1 000 V are deemed to comply with this standard without testing.

4.2.4 *Add to the second paragraph:*

The selection of the procedures for measuring is shown in Figure 3.

Replace the 5th paragraph by:

The measuring equipment is to have a noise level up to 5 % of the limit value. Any measured value below the maximum noise level is disregarded.

Add Figure 3:

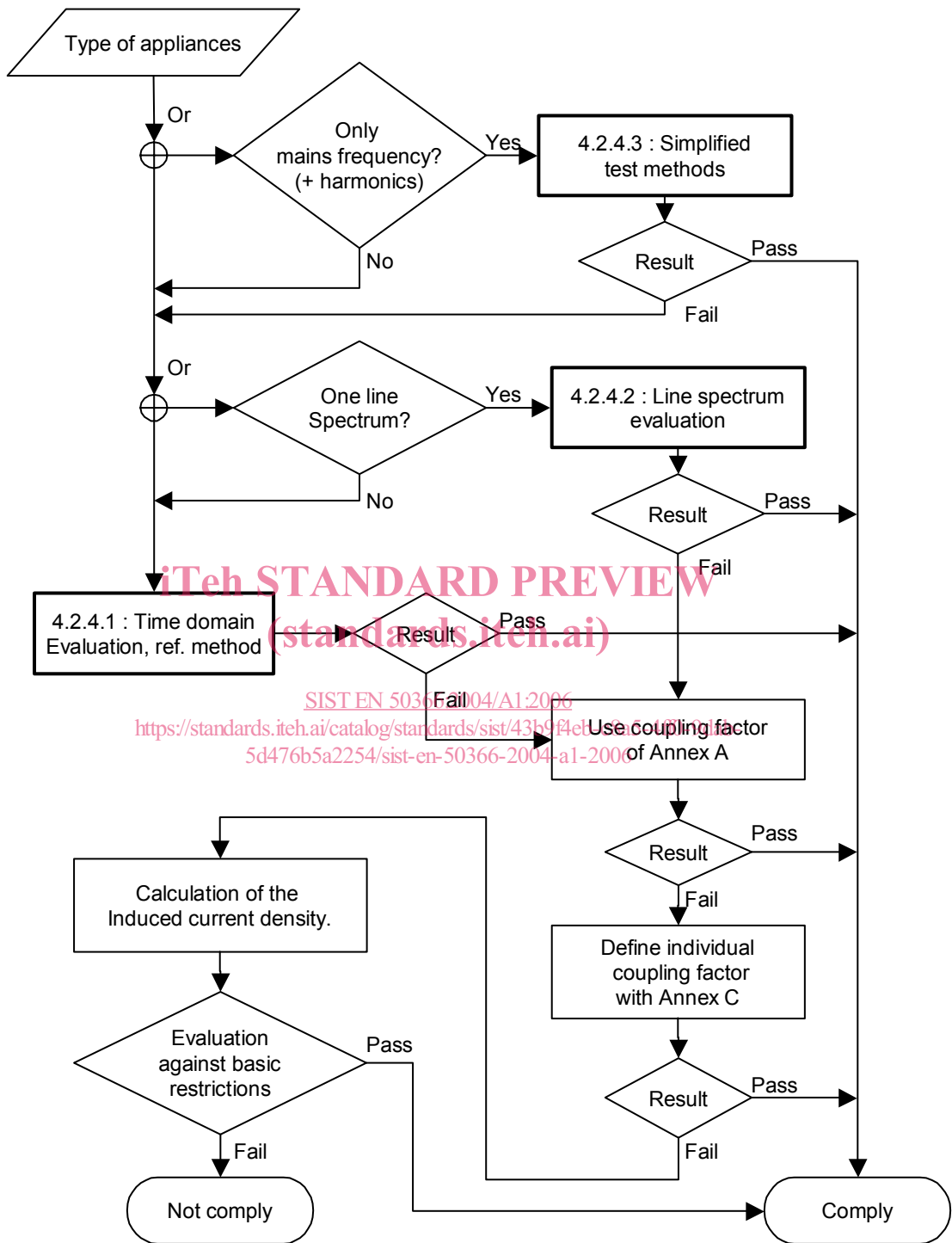


Figure 3 – Selection of measuring procedures

Annex A

A.1.1 Replace the text by:

A.1.1 The measurements are carried out under the conditions specified in Table A.1, the appliance being positioned as in normal use.

If the appliance is not listed in Table A.1, the measurement is made with the appliance operating as specified in EN 55014-1, the magnetic flux density being measured at **operator distance** around the appliance.

Table A.1 Replace the table by:

Table A.1 - Measuring distances, sensor locations, operating conditions and coupling factors

Type of appliance	Measuring distance r_1 cm	Sensor locations ^a	Operating conditions	Coupling factor $a_c(r_1)$ $\sigma = 0,1 \text{ S/m}$ 8 Hz 800 Hz ^b
Appliances not mentioned in the table	Operator distance	All surfaces	As specified in EN 55014-1	See Annex C
Air cleaners	30	All surfaces	Continuously	0,17
Air conditioners	30	Around	Continuously. When cooling lowest temperature setting. When heating highest temperature setting	0,18
Battery chargers (including inductive)	30	All surfaces	Charging a discharged battery having the highest capacity specified by the manufacturer	0,15
Blankets	0	Top	Spread out and laid on a sheet of thermal insulation	0,19
Blenders	30	Around	Continuously, no load	0,16
Citrus presses	30	Around	Continuously, no load	0,15
Clocks	30	Around	Continuously	0,15
Coffee makers	30	Around	As specified in 3.1.9 of EN 60335-2-15	0,16
Coffee mills	30	All surfaces	As specified in 3.1.9.108 of EN 60335-2-14	0,15
Convector heaters	30	Around	With highest output	0,20
Deep fat fryers	30	Around	As specified in 3.1.9 of EN 60335-2-13	0,16
Dental hygiene appliances	0	All surfaces	As specified in 3.1.9 of EN 60335-2-52	0,19
Depilators	0	Against cutter	Continuously, no load	0,21
Dishwashers	30	Top, front	Without dishes in the washing mode and drying mode	0,18
Egg boilers	30	Around	As specified in 3.1.9 of EN 60335-2-15	0,15

Type of appliance	Measuring distance r_1 cm	Sensor locations ^a	Operating conditions	Coupling factor $a_c(r_1)$ $\sigma = 0,1 \text{ S/m}$ 8 Hz 800 Hz ^b
Electric and electronic controls for track sets	30	All surfaces	Continuously	0,17
Facial sauna appliances	10	Top	Continuously	0,12
Fans	30	Front	Continuously	0,16
Fan heaters	30	Front	Continuously, highest heat setting	0,16
Floor polishers	30	All surfaces	Continuously without any mechanical load on the polishing brushes	0,19
Food processors	30	Around	Continuously without load, highest speed setting	0,17
Food warming cabinets	30	Front	Continuously without load, highest heat setting	0,15
Foot warmers	30	Top	Continuously without load, highest heat setting	0,15
Gas heating appliances, floor standing	30	Front, left and right side	Continuously, highest heat setting with pump in operation	0,20
Gas heating appliances, wall mounted	30	Front, left and right side	Continuously, highest heat setting with pump in operation	0,16
Gas ignitors	30	All surfaces	Continuously	0,15
Grills	30	Around	Continuously without load, highest heat setting	0,16
Hair clippers	0	Against cutter	Continuously without load	0,21
Hairdryers	10	All surfaces	Continuously, highest heat setting	0,12
Heat pumps	30	Around	Continuously. When cooling lowest temperature setting. When heating highest temperature setting	0,17
Heating mats	30	Top	Spread out and laid on a sheet of thermal insulation	0,15
Heating pads	0	Top	Spread out and laid on a sheet of thermal insulation	0,14
Hobs	30	Top, front	As specified in 3.1.9 of EN 60335-2-6 but with highest setting, each heating unit separately	0,18
Hotplates	30	Around	As specified in 3.1.9 of EN 60335-2-9 but with highest setting, each heating unit separately	0,17

Type of appliance	Measuring distance r_1 cm	Sensor locations ^a	Operating conditions	Coupling factor $a_c(r_1)$ $\sigma = 0,1 \text{ S/m}$ 8 Hz 800 Hz ^b
Icecream makers	30	Around	Continuously without load, lowest temperature setting	0,18
Immersion heaters	30	Around	Heating element fully submerged	0,16
Induction hobs and hotplates	See A.3.1	Front and sidewalls	See A.3.2.	
Irons	30	All surfaces	As specified in 3.1.9 of EN 60335-2-3	0,15
Ironing machines	30	All surfaces	As specified in 3.1.9 of EN 60335-2-44	0,19
Juice extractors	30	Around	Continuously without load	0,17
Kettles	30	Around	Half-filled with water	0,17
Kitchen scales	30	Around	Continuously without load	0,14
Knives	30	All surfaces	Continuously without load	0,16
Massage appliances	0	Against the massage head	Continuously without load, highest speed setting	0,21
Microwave ovens	30	Top, front	Continuously with highest microwave power setting. Conventional heating elements, if available, are operated simultaneously at their highest setting. The load is 1 l of tap water, placed in the centre of the shelf. The water container is made of electrically non-conductive material such as glass or plastic.	0,17
Mixers	30	All surfaces	Continuously without load, highest speed setting	0,16
Oil filled radiators	30	Around	Continuously, highest heat setting	0,20
Ovens	30	Top, front	Oven empty with door closed, thermostat being at the highest setting. Also in the cleaning mode, if available, as described in the instructions for use.	0,20
Ranges	30	Top, front	Each function separately	0,20
Range hoods	30	Bottom, front	Controls at highest setting	0,19

Type of appliance	Measuring distance r_1 cm	Sensor locations ^a	Operating conditions	Coupling factor $a_c(r_1)$ $\sigma = 0,1 \text{ S/m}$ 8 Hz 800 Hz ^b
Refrigeration appliances	30	Top, front	Continuously with the door closed. The thermostat is adjusted to lowest temperature setting. The cabinet is empty. The measurement is made after steady conditions have been reached but with active cooling in all compartments.	0,18
Rice cookers	30	Around	Half-filled with water, without lid and highest heat setting	0,16
Shavers	0	Against cutter	Continuously without load	0,42
Slicing machines	30	All surfaces	Continuously without load, highest speed setting	0,17
Solaria	0	Around	Continuously, highest settings	0,18
- parts touching the body	30	Around	Continuously, highest settings	0,20
- other parts	30	Top, front	Continuously without load	0,18
Spin extractors	30	Around	Continuously, highest heat setting	0,20
Storage heaters	30	Around	Continuously, no load	0,16
Tea makers	30	Around	Without load, highest heat setting	0,16
Toasters	30	Around	No-load, all settings e.g. speed set to maximum.	0,15
Tools, hand-guided	30	Around, unless the same side is always towards the user	No-load, all settings e.g. speed set to maximum.	0,15
Tools, hand-held	30	Around, unless the same side is always towards the user	No-load, all settings e.g. speed set to maximum.	0,15
Tools, transportable	30	Top and side towards the user	No-load, all settings e.g. speed set to maximum.	0,16
Tools with heating elements	30	Around, unless the same side is always towards the user	Highest temperature setting. Glue guns with glue stick in working position	0,15

Type of appliance	Measuring distance r_1 cm	Sensor locations ^a	Operating conditions	Coupling factor $a_c(r_1)$ $\sigma = 0,1 \text{ S/m}$ 8 Hz 800 Hz ^b
Tumble dryers	30	Top, front	Drum filled with textile material having a mass in the dry condition of 50 % of the maximum load. The textile material consists of pre-washed double-hemmed cotton sheets approximately 70 cm * 70 cm having a mass between 140 g/square m and 170 g/square m in the dry condition. The material is soaked with water of a mass of 60 % of that of the textile material.	0,18
Vacuum cleaners, body sling	0	All surfaces	As specified in 3.1.9 of EN 60335-2-2	0,13
Vacuum cleaners, handheld	30	All surfaces	As specified in 3.1.9 of EN 60335-2-2	0,16
Vacuum cleaners, others	30	Around	As specified in 3.1.9 of EN 60335-2-2	0,16
Washing machines and washer dryers	30	Top, front	Without textiles, in the spinning mode at highest speed	0,18
Water-bed heaters	10	Top	Spread out and laid on a sheet of thermal insulation	0,14
Water heaters	30	Around	Controls at highest setting, with water flowing, if necessary	0,17
Whirlpool baths - inside - outside	0 30	Around Around	Continuously Continuously	0,18 0,20

^a The sensor is moved at the specified distance from the outside of the appliance. It is moved over an area to cover the surface of the appliance specified. When the sensor location is specified as "around", the sensor is moved in a plane at a representative height around the appliance.

^b The worst case coupling factors have been calculated for frequencies up to 800 Hz. For fundamental operating frequencies greater than 800 Hz, the coupling factor is $a_c(r_1) \times 1,27$.