EESTI STANDARDIKESKUS ESTONIAN CENTRE FOR STANDARDISATION

# **EESTI STANDARD**

# N.S. OCU 1is Majapidamis- ja muud taolised elektriseadmed. Ohutus. Osa 2-8: Erinõuded pardlitele, juukselõikusmasinatele ja muudele taolistele seadmetele

Household and similar electrical appliances - Safety - Part 2er sts fc. Oreview Oenerated by The Oreview Oenerated by The T 8: Particular requirements for shavers, hair clippers and similar appliances

# EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60335-2- 8:2003 sisaldab Euroopa standardi EN 60335- 2-8:2003 ingliskeelset teksti.	This Estonian standard EVS-EN 60335-2-8:2003 consists of the English text of the European standard EN 60335-2-8:2003.
Standard on kinnitatud Eesti Standardikeskuse 17.07.2003 käskkirjaga ja jõustub sellekohase teate avaldamiset EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 17.07.2003 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 20.03.2003.	Date of Availability of the European standard text 20.03.2003.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.
ICS 13.120, 97.170	A CONTRACTOR OF THE SECOND STATES AND A CONTRACTOR OF THE SECOND STATE
Andmete paljundamine, taastekitamine, kopeerimine, salvestamine e	elektroonilisse süsteemi või edastamine ükskõik millises vormis või
millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirja Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühen Aru 10 Tallinn 10317 Eesti; <u>www.evs.ee</u> ; Telefon: 605 5050; E-pos	dust Eesti Standardikeskusega:
Right to reproduce and distribute Estonian Standards belongs t	o the Estonian Centre for Standardisation
No part of this publication may be reproduced or utilized in any form photocopying, without permission in writing from Estonian Centre for	

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation: Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

# EUROPEAN STANDARD

# EN 60335-2-8

# NORME EUROPÉENNE

# EUROPÄISCHE NORM

20; 97.170

ICS 12

March 2003

Supersedes EN 60335-2-8:1995 + A1:2001

English version

# Household and similar electrical appliances -Safety

### Part 2-8: Particular requirements for shavers, hair clippers and similar appliances

(IEC 60335-2-8:2002, modified)

Appareils électrodomestiques et analogues -Sécurité Partie 2-8: Règles particulières pour les

rasoirs, les tondeuses et les appareils analogues (CEI 60335-2-8:2002, modifiée) Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke Teil 2-8: Besondere Anforderungen für Rasiergeräte, Haarschneidemaschinen und ähnliche Geräte (IEC 60335-2-8:2002, 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

© 2003 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

### Foreword

The text of document 61/2200/FDIS, future fifth edition of IEC 60335-2-8, prepared by 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 60335-2-8 on 2003-03-01

This European Standard replaces EN 60335-2-8:1995 + A1:2001.

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)	2006-03-01

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 shavers, hair clippers and similar appliances.

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.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

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 60335-2-8:2002 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

### 24 Components

p 24.1.3 Add:

rers inten Switches incorporated in shavers and hairclippers intended for household use only, are tested for 3 000 cycles of operation.

# **INTERNATIONAL IEC** Anis Oocumenter Here **STANDARD** 60335-2-8 Fifth edition 2002-10 Household and similar electrical appliances -Safety -Part 2-8: Particular requirements for shavers, hair clippers and similar appliances Appareils électrodomestiques et analogues -Sécurité -Partie 2-8: Règles particulières pour les rasoirs, les tondeuses et les appareils analogues ienerated by fr Reference number IEC 60335-2-8:2002(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:

IEC Web Site (www.iec.ch)

### Catalogue of IEC publications

The on-line catalogue on the IEC web site (<u>http://www.iec.ch/searchpub/cur\_fut.htm</u>) 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**

**IEC Just Published** This summary of recently issued publications (<u>http://www.iec.ch/online\_news/justpub/jp\_entry.htm</u>) is also available by email. Please contact the Customer Service Centre (see below) for further information.

### **Customer Service Centre**

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

Email: custserv@iec.ch Tel: +41 22 919 02 11 Fax: +41 22 919 03 00

# **INTERNATIONAL IEC** his document. 60335-2-8 **STANDARD** Fifth edition 2002-10 Household and similar electrical appliances -Safety -Part 2-8: Particular requirements for shavers, hair clippers and similar appliances Appareils électrodomestiques et analogues -Sécurité -Partie 2-8: Règles particulières pour les rasoirs, les tondeuses et les appareils analogues enerale © IEC 2002 — Copyright - all rights reserved 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 Varembé, 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 ww.iec.ch Ν PRICE CODE



Commission Electrotechnique Internationale International Electrotechnical Commission Международная Электротехническая Комиссия

For price, see current catalogue

# CONTENTS

	λ	
FO	REWORD	3
INT	RODUCTION	5
1	Scope	6
2	Normative references	6
3	Definitions	6
4	General requirement	7
5	General conditions for the tests	7
6	Classification	
7	Marking and instructions	8
8	Protection against access to live parts	9
9	Starting of motor-operated appliances	
10	Power input and current	9
11	Heating	9
12	Void	9
13	Leakage current and electric strength at operating temperature	
14	Transient overvoltages.	9
15	Moisture resistance	9
16	Leakage current and electric strength	
17	Overload protection of transformers and associated circuits1	
18	Endurance	0
19	Abnormal operation1	
20	Stability and mechanical hazards1	
21	Mechanical strength	0
22	Construction	0
23	Internal wiring1	
24	Components1	1
25	Components	1
26	Terminals for external conductors	2
27	Provision for earthing1	2
28	Screws and connections	12
29	Clearances, creepage distances and solid insulation1	12
30	Resistance to heat and fire1	
31	Resistance to rusting1	12
32	Radiation, toxicity and similar hazards	13
	<b>O</b>	•
Anr	nexes1	14
Bib	liography1	4

### INTERNATIONAL ELECTROTECHNICAL COMMISSION



- 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 (ISQ) in accordance with conditions determined by agreement between the two organizations.
- 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 IEC technical committee 61: Safety of household and similar electrical appliances.

This fifth edition cancels and replaces the fourth edition published in 1992 and its amendment 1 (2000). It constitutes a technical revision.

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

FDIS	Report on voting	K
61/2200/FDIS	61/2281/RVD	Ŷ

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 shavers, hair clippers and similar appliances.

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.

NOTE 2 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.

NOTE 3 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**.

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.

- 6.1: Class 0, class 0I and class I appliances are allowed, provided that they withstand higher test voltages during the electric strength test (USA).
- 6.1: Class 0 appliances are allowed provided that their rated voltage does not exceed 150 V (Japan).
- 11.7: Appliances for household use are operated for 20 min. Other appliances are operated for 5 min with rest periods of 5 min (USA).
- 24.1.3: The test is carried out for 6 000 operations (USA).
- 25.7: Supply cords specially intended for use with electric sharers and hair clippers are allowed (USA).
- 25.14: The tests are not carried out (USA).

A bilingual version of this publication may be issued at a later date.

### 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 that 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 2-8: Particular requirements for shavers, hair clippers and similar appliances

Scope 1

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric shavers, hair clippers and similar appliances intended for household and similar purposes, their rated voltage being not more than 250 V.

NOTE 101 Examples of similar appliances are those used for manicure and pedicure.

Appliances not intended for normal household use, but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops and on farms, are within the scope of this standard.

NOTE 102 Examples of such appliances are animal clippers, animal shearers and appliances for hairdressers.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children

NOTE 103 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries additional requirements are specified by national health authorities, national authorities responsible for the protection of labour and similar authorities.

NOTE 104 This standard does not apply to

- appliances intended to be used in locations where special conditions prevail, such as the presence of a TT COOT corrosive or explosive atmosphere (dust, vapour or gas);
- massage appliances (IEC 60335-2-32);
- appliances for medical purposes (IEC 60601).

### 2 Normative references

This clause of Part 1 is applicable.

### 3 Definitions

This clause of Part 1 is applicable except as follows.