



SLOVENSKI STANDARD

SIST EN 60311:2000

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Electric irons for household or similar use - Methods for measuring performance

Electric irons for household or similar use - Methods for measuring performance

Elektrische Haushalt-Bügeleisen oder für ähnliche Zwecke - Prüfverfahren zur Bestimmung der Gebrauchseigenschaften

Fers à repasser électriques pour usage domestique ou analogue - Méthodes de mesure de l'aptitude à la fonction

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97.060

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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English version

**Electric irons for household or similar use
Methods for measuring performance
(IEC 60311:1995)**

Fers à repasser électriques pour
usage domestique ou analogue
Méthodes de mesure de l'aptitude
à la fonction
(CEI 60311:1995)

Elektrische Haushalt-Bügeleisen
oder für ähnliche Zwecke
Prüfverfahren zur Bestimmung der
Gebrauchseigenschaften
(IEC 60311:1995)

This European Standard was approved by CENELEC on 1997-07-01. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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 the International Standard IEC 60311:1995, prepared by SC 59E, Ironing and pressing appliances, of IEC TC 59, Performance of household electrical appliances, was submitted to the formal vote and was approved by CENELEC as EN 60311 on 1997-07-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 1998-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1998-06-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B and ZA are normative and annex C is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60311:1995 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

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).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60051-1	1984	Direct acting indicating analogue electrical-measuring instruments and their accessories Part 1: Definitions and general requirements common to all parts	EN 60051-1	1989
IEC 60454-3-3	1981	Specification for pressure-sensitive adhesive tapes for electrical purposes Part 3: Specifications for individual materials Sheet 3: Requirements for polyester film tapes (PETP) with non-thermosetting adhesive	-	-
IEC 60734	1993	Hard water to be used for testing the performance of some household electrical appliances	EN 60734	1993
ISO 105-F	1985	Textiles - Tests for colour fastness Part F: Standard adjacent fabrics	-	-
ISO 2409	1992	Paints and varnishes - Cross-cut test	EN ISO 2409	1994
ISO 3758	1991	Textiles - Care labelling code using symbols	EN 23758	1993
ISO 3801	1977	Textiles - Woven fabrics - Determination of mass per unit length and mass per unit area	-	-
ISO 5081	1977	Textiles - Woven fabrics - Determination of breaking strength and elongation (Strip method)	-	-
ISO 6330	1984	Textiles - Domestic washing and drying procedures for textile testing	EN 26330	1993
ISO 7211-2	1984	Textiles - Woven fabrics - Construction - Methods of analysis Part 2: Determination of number of threads per unit length	-	-

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9073-2	1989	Textiles - Test methods for nonwovens Part 2: Determination of thickness	EN 29073-2 ¹⁾	1992

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1) EN 29073-2 is superseded by EN ISO 9073-2:1996, which is based on ISO 9073-2:1995.

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Fers à repasser électriques
pour usage domestique ou analogue –
Méthodes de mesure de l'aptitude à la fonction

Electric irons for household or similar use –
Methods for measuring performance

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC IRONS FOR HOUSEHOLD
OR SIMILAR USE –
METHODS FOR MEASURING PERFORMANCE**

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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, 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.

International Standard IEC 311 has been prepared by sub-committee 59E: Ironing and pressing appliances, of IEC technical committee 59: Performance of household electrical appliances.

The text of this standard is based on the second edition, amendment 1 and amendment 2 to the second edition, and the following documents:

DIS	Report on voting
59E/71/DIS	59E/75/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.

Annexes A and B form an integral part of this standard.

Annex C is for information only.

In this standard, the following print types are used:

- *test specifications: in italic type*
- notes: in small roman type
- other texts: in roman type

Words in **bold** in the text are defined in clause 3.

ELECTRIC IRONS FOR HOUSEHOLD OR SIMILAR USE – METHODS FOR MEASURING PERFORMANCE

1 Scope and object

This standard applies to electric irons for household or similar use.

The purpose of this standard is to state and define the principal performance characteristics of electric irons for household or similar use which are of interest to the user, and to describe the standard methods for measuring these characteristics.

This standard is concerned neither with safety nor with performance requirements.

NOTE – The primary characteristic to be taken into account in assessing the performance of an electric iron is its basic ability to produce a smooth finish to textile materials, without risk of scorching or other damage. It has not proved possible to devise a single method which will measure this characteristic in a consistently reproducible way and measurements have therefore been included to check certain factors such as temperature of the sole-plate at the mid-point, sole-plate temperature distribution, etc., which affect the basic characteristic. In evaluating the results, it must be realized that, while a very exceptional result in any one of them may significantly affect performance, there is considerable latitude in the combination of results which will give satisfactory ironing performance, and too much significance should not be attached to minor differences in any one result.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 51-1: 1984, *Direct acting indicating analogue electrical-measuring instruments and their accessories – Part 1: Definitions and general requirements common to all parts*

IEC 454-3-3: 1981, *Specification for pressure-sensitive adhesive tapes for electrical purposes – Part 3: Specifications for individual materials – Sheet 3: Requirements for polyester film tapes (PETP) with non-thermosetting adhesive*

IEC 734: 1993, *Hard water to be used for testing the performance of some household electrical appliances*

ISO 105-F: 1985, *Textiles – Tests for colour fastness – Part F: Standard adjacent fabrics*

ISO 2409: 1992, *Paints and varnishes – Cross-cut test*

ISO 3758: 1991, *Textiles – Care labelling code using symbols*

ISO 3801: 1977, *Textiles – Woven fabrics – Determination of mass per unit length and mass per unit area*

ISO 5081: 1977, *Textiles – Woven fabrics – Determination of breaking strength and elongation (Strip method)*

ISO 6330: 1984, *Textiles – Domestic washing and drying procedures for textile testing*

ISO 7211-2: 1984, *Textiles – Woven fabrics – Construction – Methods of analysis – Part 2: Determination of number of threads per unit length*

ISO 9073-2: 1989, *Textiles – Test methods for nonwovens – Part 2: Determination of thickness*

3 Terms and definitions

For the purpose of this standard the following definitions apply.

3.1 electric iron: A portable appliance, which has an electrically heated sole-plate and is used for ironing textile materials.

NOTE – In this standard, "electric iron" is referred to as "iron".

3.2 thermostatic iron: An iron fitted with a thermostat, the setting of which can be adjusted manually to alter the sole-plate temperature over a range and maintain it within certain limits.

3.3 electric iron with self-resetting thermal cut-out: An iron fitted with a self-resetting thermal cut-out with a fixed setting to limit the maximum temperature of the sole-plate.

3.4 electric iron with non-self-resetting thermal cut-out: An iron fitted with a non-self-resetting thermal cut-out, such as a fusible link, for the purpose of disconnecting the heating element if the iron attains excessive temperature.

3.5 dry iron: An iron having neither means to produce and supply steam nor to spray water on to textile materials while ironing.

3.6 steam iron: An iron having means to produce and supply steam to textile materials while ironing.

It can be provided with means to supply a shot of steam.

3.6.1 shot-of-steam iron: An iron provided with means to supply a shot of steam to textile materials while ironing.

3.7 spray iron: An iron provided with means to spray water on to textile materials while ironing.

3.8 Rated voltage SIST EN 60311:2000

3.8.1 rated voltage: The voltage assigned to the iron by the manufacturer.

3.8.2 rated voltage range: The range of voltage assigned to the iron by the manufacturer, expressed in terms of its lower and upper limits.

3.9 rated input: The input power of the iron under normal operating conditions assigned by the manufacturer.

3.10 sole-plate: The flat surface of the iron, which is heated electrically and pressed against textile materials while ironing.

3.11 mid-point: A point of the sole-plate in the geometrical centre of the centre-line of the sole-plate.

If this point is on a steam outlet, a groove or a cover, the nearest point of the sole-plate on the centre-line, as is practicable, is chosen.

3.12 upright position: A vertical still position for a heel-standing iron or normal resting position according to the manufacturer's instructions for other than a heel-standing iron.

4 List of measurements

The performance of the iron is determined by the following measurements.

4.1 *Measurements for all kinds of irons*

- Determination of mass (see clause 6).
- Measurement of length of flexible cord (see clause 7).
- Measurement of scratch resistance of sole-plate (see clause 8).
- Measurement of input power (see clause 9).
- Measurement of heating-up time (see clause 10).
- Determination of the hottest point (see clause 11).
- Measurement of temperature distribution (see clause 12).
- Determination of adhesion of polytetrafluorethylene (PTFE) coating or similar coating on sole-plate (see clause 21).

4.2 *Measurements for thermostatic irons*

- Measurement of sole-plate temperature (see clause 13).
- Measurement of initial overswing temperature and heating-up excess temperature (see clause 14).
- Measurement of cyclic fluctuation of temperature of the hottest point (see clause 15).
- Determination of temperature drop under load (see clause 16).
- Measurement of thermostatic stability (see clause 17).

NOTE - When the above measurements are performed on steam or spray irons, the water container must be empty.

4.3 *Measurements for irons with self-resetting thermal cut-out*

- Measurement of sole-plate temperature (see clause 13).

4.4 *Measurements for steam irons under steaming operation*

- Measurement of heating-up time for steaming operation (see clause 18).
- Measurement of steaming time (see clause 19).
- Measurement of steaming rate (see clause 19).
- Determination of total hard water steaming time before cleaning (see clause 20).

4.5 *Table of measurements for various types of irons*

Measurements for various types of irons are indicated in the following table.