



BSI Standards Publication

Household and similar electrical appliances – Safety

Part 2-11: Particular requirements for tumble dryers
(IEC 60335-2-11:2008, modified)

National foreword

This British Standard is the UK implementation of EN 60335-2-11:2010+A2:2018. It is derived from IEC 60335-2-11:2008, incorporating amendment 1:2012 and amendment 2:2015. It supersedes BS EN 60335-2-11:2010+A1:2015, which will be withdrawn on 16 May 2021.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to text carry the number of the IEC or CENELEC amendment. For example, text altered by IEC amendment A1 is indicated by $\overline{A1}$ $\langle A1 \rangle$; text altered by CENELEC amendment A11 is indicated by $\overline{A11}$ $\langle A11 \rangle$.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags \overline{C} $\langle C \rangle$.

Where a common modification to an IEC amendment has been introduced, the tags carry the number of the amendment. For example, the common modifications introduced by CENELEC to IEC amendment A1 are indicated by $\overline{C1}$ $\langle C1 \rangle$.

The UK participation in its preparation was entrusted to Technical Committee CPL/61, Safety of household and similar electrical appliances.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Amendments/corrigenda issued since publication

Date	Text affected
31 August 2013	Implementation of CENELEC amendment A11:2012
30 April 2015	Implementation of IEC amendment 1:2012 with CENELEC modifications
30 April 2016	Correction to Annexes R and BB
31 March 2019	Implementation of IEC amendment 2:2015 with CENELEC modifications

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60335-2-11:2010

+A2

December 2018

ICS 97.060; 13.120

Supersedes EN 60335-2-11:2003 + corr. Jul.2003 +
A1:2004 + A2:2006 + A11:2008

English Version

**Household and similar electrical appliances – Safety –
Part 2-11: Particular requirements for tumble dryers
(IEC 60335-2-11:2008, modified)**

Appareils électrodomestiques et
analogues – Sécurité – Partie 2-11: Règles
particulières pour les sèche-linge à tambour
(IEC 60335-2-11:2008, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke – Teil 2-11:
Besondere Anforderungen für Trommelrockner
(IEC 60335-2-11:2008, modifiziert)

This European Standard was approved by CENELEC on 2010-04-01. 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, Croatia, 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.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European Foreword

The text of document 61/3646/FDIS, future edition 7 of IEC 60335-2-11, prepared by IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote.

A draft amendment was prepared by the Technical Committee CENELEC TC 61, Safety of household and similar electrical appliances. It was discussed during the meeting of CENELEC TC 61 in Kista in June 2008, when it was decided to submit a draft for an amendment to the Unique Acceptance Procedure.

The combined texts were approved by CENELEC as EN 60335-2-11 on 2010-04-01.

This European Standard supersedes EN 60335-2-11:2003 + corr. July 2003 + A1:2004 + A2:2006 + A11:2008.

The principal changes compared to EN 60335-2-11:2003 and its amendments are as follows (minor changes are not listed):

- aligns the text with EN 60335-1:2002 and its amendments,
- some notes have been converted to normative text.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) 2011-04-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2015-04-01

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 tumble dryers.

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.

Endorsement notice

The text of the International Standard IEC 60335-2-11:2008 was approved by CENELEC as a European Standard with agreed common modifications.

European foreword to amendment A11

This document (EN 60335-2-11:2010/A11:2012) has been prepared by CLC/TC 61 “Safety of household and similar electrical appliances”.

The following dates are fixed:

- latest date by which this document has to be implemented at (dop) 2013-07-09
national level by publication of an identical national standard or
by endorsement
- latest date by which the national standards conflicting with this (dow) 2015-07-09
document have to be withdrawn

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2012 and EN 60335-2-11:2010.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

European foreword to amendment A1

This document (EN 60335-2-11:2010/A1:2015) consists of the text of IEC 60335-2-11:2008/A1:2012 prepared by IEC/TC 61 “Safety of household and similar electrical appliances”, together with the common modifications prepared by CLC/TC 61 “Safety of household and similar electrical appliances”.

The following dates are fixed:

- latest date by which the document has to be implemented at na- (dop) 2015-08-13
tional level by publication of an identical national standard or by
endorsement
- latest date by which the national standards conflicting with the (dow) 2017-02-24
document have to be withdrawn

Ⓒ Annex ZC
(normative)

**Normative references to international publications with their
corresponding European publications**

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 3864-1	—	Graphical symbols – Safety colours and safety signs – Design principles for safety signs in workplaces and public areas Ⓒ	—	—

Annex ZZ
(informative)

Relationship between this European Standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission’s standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].


Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Compliance with Part 1 when used together with this Part 2 provides one means of conformity with the safety objectives.

Table ZZ.1 — Correspondence between this European Standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks/Notes
1 a)	Clauses 4, 7	None
1 b)	Clauses 4, 7	None
1 c)	Clauses 4, 7	None
2 a)	Clauses 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	None
2 b)	Clauses 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	None
2 c)	Clauses 6, 7, 11, 15, 17, 18, 19, 20, 21, 22, 24, 25, 30, 32	None
2 d)	Clauses 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	None
3 a)	Clauses 6, 7, 11, 17, 18, 19, 20, 21, 22	None
3 b)	Clauses 7, 11, 15, 19, 22, 25, 32	None
3 c)	Clauses 6, 7, 9, 10, 11, 14, 17, 18, 19, 21, 22	None

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard. 

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FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). 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 nongovernmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60335-2-11 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This seventh edition cancels and replaces the sixth edition published in 2002 including its Amendment 1 (2003) and Amendment 2 (2006). It constitutes a technical revision.

The principal changes in this edition as compared with the sixth edition of IEC 60335-2-11 are as follows (minor changes are not listed):

- aligns the text with IEC 60335-1, Ed 4, and its Amendments 1 and 2;
- some notes have been converted to normative text (7.101, 11.8, 20.102, 20.103 and Annex AA).

The text of this standard is based on the following documents:

FDIS	Report on voting
61/3646/FDIS	61/3686/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 tumble dryers.

NOTE 2 The following annexes contain provisions suitably modified from other IEC standards:

Annex AA	Rinsing agent	IEC 60436
Annex BB	Tumble dryers that use a refrigerating system incorporating sealed motor-compressors for carrying out the drying process	IEC 60068-2-6 and IEC 60079-15
Annex CC	A1 Equipment protection by type of protection “n” A1	IEC 60079-15

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 3 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 4 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 the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under “<http://webstore.iec.ch>” in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE 5 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- 3.1.9: The textile material has different dimensions (USA).
- 6.2: Tumble dryers are not required to be IPX4 (USA).
- 7.1: An instruction concerning cleaning the lint trap is to be marked on the dryer in letters not less than 8 mm high and is to be conspicuous when the dryer door is open (Australia, New Zealand).
- 7.12: Actual articles of clothing can be specified instead and warnings are required to be marked on the appliance regarding the use of chemicals for cleaning (USA).
- 11.2: The test condition is different (USA).
- 11.7: This test is continued until steady conditions are established and different criteria are used to determine when steady conditions are reached (USA).
- 19.4: The test is different (USA).
- 19.9: A running overload test is carried out on automatically controlled tumble dryers (USA).
- 20.101: The requirement is applicable to door openings with a dimension exceeding 200 mm (Norway).
- 20.102: When considering accessibility to rotating drums, the maximum drum volume is 60 dm³ and the maximum door opening is 200 mm (USA).
- 20.103: This test is not carried out (USA).
- 22.104: The test is different (USA).
- 27.1: Earthing terminals and contacts are allowed to be electrically connected to the neutral conductor of a tumble dryer (USA)

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 and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

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.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

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.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

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 which 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 2-11: Particular requirements for tumble dryers

1 Scope

A11 This clause of Part 1 is replaced by the following.

This European Standard deals with the safety of electric **tumble dryers** intended for household and similar use, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE Z101 This European Standard applies to the drying function of washing machines having a drying cycle.

This European Standard also deals with the safety of **tumble dryers** that use a refrigerating system, incorporating sealed motor-compressors, for drying textile material. These appliances may use **flammable refrigerants**. Additional requirements for these appliances are given in Annex BB.

Appliances intended to be used by laymen in shops and other premises for normal housekeeping purposes, are within the scope of this European Standard.

NOTE Z102 Examples of appliance for household environment are appliances for typical housekeeping functions used in the household environment that may also be used by non-expert users for typical housekeeping functions:

- in shops and other similar working environments;
- in farm houses;
- by clients in hotels, motels and other residential type environments;
- in bed and breakfast type environments.

NOTE Z103 Household environments include the dwelling and its associated buildings, the garden, etc.

As far as is practicable, this European Standard deals with the common hazards presented by appliances that are encountered by all persons in household and similar environments.

However, in general, it does not take into account

- **children** playing with the appliance,
- the use of the appliance by **very young children**,
- **the use of the appliance** by **young children** without supervision,
- **user maintenance** by **children**, including the cleaning of the appliance.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this European Standard.

This European Standard does not apply to

- appliances intended for industrial purposes,
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas).