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Responsible committee: CPL/59 Performance of household electrical appliances

Interested committees:

Title: BS EN 61121:2013/AB Tumble Dryers for household use - Methods of measuring the performance

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- iii) requires additional national guidance or information

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## Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

## UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

## Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

## Template for comments and secretariat observations

|                  |                        |
|------------------|------------------------|
| Date: xx/xx/20xx | Document: ISO/DIS xxxx |
|------------------|------------------------|

| 1  | 2                                          | (3)                          | 4               | 5                                                                                                                                  | (6)                                                                      | 7                                                  |
|----|--------------------------------------------|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------|
| MB | Clause No./ Subclause No./Annex (e.g. 3.1) | Paragraph/Figure/ Table/Note | Type of comment | Commend (justification for change) by the MB                                                                                       | Proposed change by the MB                                                | Secretariat observations on each comment submitted |
|    | 3.1                                        | Definition 1                 | ed              | Definition is ambiguous and needs clarifying.                                                                                      | Amend to read '...so that the mains connector to which no connection...' |                                                    |
|    | 6.4                                        | Paragraph 2                  | te              | The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK. | Delete reference to UV photometer.                                       |                                                    |

English Version

## Tumble dryers for household use - Methods for measuring the performance

Sèche-linge à tambour à usage domestique - Méthodes de mesure de l'aptitude à la fonction

Wäschetrockner für den Hausgebrauch - Verfahren zur Messung der Gebrauchseigenschaften

This draft amendment prAB, if approved, will modify the European Standard EN 61121:2013; it is submitted to CENELEC members for enquiry.

Deadline for CENELEC: 2024-05-31.

It has been drawn up by CLC/TC 59X.

If this draft becomes an amendment, 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.

This draft amendment was established by CENELEC 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 CEN-CENELEC Management Centre 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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**

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## 28 European foreword

29 This document (EN 61121:2013/prAB:2024) has been prepared by CLC/TC59X WG01-09 "Dryer".

30 This document is currently submitted to the Enquiry.

31 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

32 This document will supersede the amendment EN 61121:2013/A11:2019 and corrigenda (if any).

33 This document is read in conjunction with EN 61121:2013.

34 EN 61121:2013/prAB:2024 includes the following significant technical changes with respect to  
35 EN 61121:2013/A11:2019:

- 36 a) the **programme** to be tested for the **combined test series** is the new introduced **eco programme**;
- 37 b) the maximum time of the phase without pre-conditioning of the **tumble dryer** between two **test runs** is  
38 extended to 96 h;
- 39 c) the requirement to adjust the water used to the pH-value is omitted;
- 40 d) a loading procedure for the **tumble dryer** is introduced;
- 41 e) addition of an alternative ambient air climate for **conditioning** the **test load**;
- 42 f) the validity of a **test run** and the validity of a **test series** has been revised;
- 43 g) the method to pre-age **test load** items for creation of a new **test load** is modified;
- 44 h) the method to calculate a pooled standard deviation has been deleted;
- 45 i) a calculation method for the average final moisture content has been added.
- 46 j) specific weighting factors are introduced for the calculation of the weighted average value of the **combined**  
47 **test series** and
- 48 k) Annex ZB Tolerances and control procedures is deleted. Annex ZB is replaced by a new Annex ZB which  
49 defines the testing procedure for **multi-drum tumble dryers**.
- 50 l) the procedure to measure low power modes is modified (see Annex ZD).

51 Annex ZA sets out the procedure to be applied for testing according to Commission Regulations with regard to  
52 energy labelling and ecodesign and provides all necessary links to all relevant clauses of this European  
53 Standard.

- 54 This document has been prepared under a standardization request addressed to CENELEC by the European  
55 Commission. The Standing Committee of the EFTA States subsequently approves these requests for its  
56 Member States.
- 57 For the relationship with EU Legislation, see informative Annexes ZZA and ZZB, which are an integral part of  
58 this document.

## 1 Modifications to Clause 2, “Normative references”

**Replace** the reference to IEC 60734 with its dated reference:

IEC 60734:2012, *Household electrical appliances – Performance – Water for testing*

**Add** the following reference:

EN IEC 63474:2023, *Electrical and electronic household and office equipment - Measurement of networked standby power consumption of edge equipment*

**Replace** the reference to EN 60704-2-6 with its dated reference:

EN 60704-2-6:2012<sup>1</sup>, *Household and similar electrical appliances - Test code for the determination of airborne acoustical noise – Part 2-6: Particular requirements for tumble dryers*

**Delete** the following references:

EN 60704-1, *Household and similar electrical appliances – Test code for the determination of airborne noise - Part 1: General requirements*

EN 60704-3, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise - Part 3: Procedure for determining and verifying declared noise emission values*

## 2 Modifications to Clause 3, “Terms and definitions”

**Add** the following table before 3.1.1:

“

**Table 3.1 — Reference table for terms and definition in alphabetical order**

| Terms and definition        | subclause |
|-----------------------------|-----------|
| air vented tumble dryer     | 3.1.2     |
| automatic tumble dryer      | 3.1.4     |
| combined cycle time         | 3.1.Z28   |
| combined energy consumption | 3.1.Z27   |
| combined programme time     | 3.1.Z27   |
| combined rated capacity     | 3.1.Z26   |
| condensation efficiency     | 3.1.Z20   |
| condenser tumble dryer      | 3.1.3     |
| conditioning                | 3.1.8     |
| cycle                       | 3.1.15    |
| cycle time                  | 3.1.16    |
| delay start                 | 3.1.Z15   |
| eco programme               | 3.1.Z18   |
| end of the programme        | 3.1.13    |
| Energy Efficiency Index     | 3.1.Z19   |
| final moisture content      | 3.1.23    |
| frequency of cleaning       | 3.1.Z12   |
| full load                   | 3.1.Z1    |

<sup>1</sup> As amended by EN 60704-2-6:2012/prAB:2024.

| Terms and definition       | subclause |
|----------------------------|-----------|
| initial moisture content   | 3.1.22    |
| left on mode duration      | 3.1.Z10   |
| moisture content           | 3.1.21    |
| multi-drum mode            | 3.1.Z23   |
| network                    | 3.1.Z14   |
| networked standby mode     | 3.1.Z17   |
| nominal test load mass     | 3.1.20    |
| non-automatic tumble dryer | 3.1.5     |
| normalization              | 3.1.17    |
| off mode                   | 3.1.24    |
| operation                  | 3.1.11    |
| partial load               | 3.1.Z2    |
| post programme phase LO    | 3.1.Z9    |
| post programme phase LU    | 3.1.Z8    |
| post programme phases      | 3.1.Z7    |
| power management system    | 3.1.Z11   |
| pre-treatment              | 3.1.7     |
| programme                  | 3.1.12    |
| programme time             | 3.1.14    |
| rated capacity             | 3.1.18    |
| rated voltage              | 3.1.26    |
| simultaneous cycle         | 3.1.Z25   |
| simultaneous programme     | 3.1.Z24   |
| standby mode               | 3.1.Z13   |
| test load                  | 3.1.6     |
| test load mass             | 3.1.19    |
| test run                   | 3.1.9     |
| test series                | 3.1.10    |
| treatment                  | 3.1.Z3    |
| treatment full             | 3.1.Z4    |
| treatment half             | 3.1.Z5    |
| tumble dryer               | 3.1.1     |
| unstable left on mode      | 3.1.Z6    |
| wrinkle guard function     | 3.1.Z16   |

77

“

78 **Replace** term entry 3.1.18 with the following:

79 “

**3.1.18****rated capacity**

maximum mass in kilograms, declared by the manufacturer, importer or authorised representative at 0,5 kg intervals of dry textiles of a particular type, which can be treated in one drying **cycle** of a **tumble dryer** on the selected **programme**, when loaded in accordance with the manufacturer's instructions

“

*Replace term entry 3.1.24 with the following:*

“

**3.1.24****off mode**

condition in which the test **tumble dryer** is connected to the mains and is not providing any function

Note Z1 to entry: The following is also considered as **off mode**:

a) conditions providing only an indication of **off mode**;

b) conditions providing only functionalities intended to ensure electromagnetic compatibility

“

*Delete term entry 3.1.25.*

*Replace term entry 3.1.Z2 with the following:*

“

**3.1.Z2****partial load**

half of the **rated capacity** of a **tumble dryer** for a given **programme**

Note Z1 to entry: See Annex ZA for additional requirements.

“

*Replace term entries 3.1.Z4 and 3.1.Z5 with the following:*

“

**3.1.Z4****treatment full**

**test run** using the **eco programme** with **full load**

**3.1.Z5****treatment half**

**test run** using the **eco programme** with **partial load**

“

*Add the following term entries:*

“

**3.1.Z13****standby mode**

condition where the test **tumble dryer** is connected to the mains and provides only the following functions, which can persist for an indefinite time:

a) reactivation function, or reactivation function and a mere indication of enabled reactivation function; and/or

b) reactivation function through a connection to a **network**; and/or

c) information or status display; and/or

d) detection function for emergency measures.

### 3.1.Z14

#### network

communication infrastructure with topology of links, an architecture, including the physical components, organizational principles, communication procedures and formats (protocols).

### 3.1.Z15

#### delay start

condition where the user has selected a specified delay to the beginning of the **cycle** of the selected **programme**.

### 3.1.Z16

#### wrinkle guard function

**operation** of the test **tumble dryer** after completion of a **programme** to prevent excessive wrinkle building of the laundry.

### 3.1.Z17

#### networked standby mode

mode in which the **tumble dryer** is able to activate another function by way of a remotely initiated trigger from a **network** connection.

### 3.1.Z18

#### eco programme

means the **programme** declared by the manufacturer, importer or authorized representative as to be able to dry cotton laundry with an **initial moisture content** of the load of 60 % down to a final moisture content of the load of 0 %.

### 3.1.Z19

#### Energy Efficiency Index

the ratio of the weighted energy consumption to the standard drying **cycle** energy consumption of a specific **tumble dryer** model

### 3.1.Z20

#### condensation efficiency

ratio between the mass of moisture condensed by a **condenser tumble dryer** and the mass of moisture removed from the load at the end of a **cycle**

### 3.1.Z21

#### multi-drum tumble dryer

tumble dryer **equipped with more than one drum whether in separate units or in the same casing**

### 3.1.Z22

#### multi-drum mode

programme where some or all of the drums of a multi-drum tumble dryer are operated simultaneously

Note Z1 to entry: A **tumble dryer** with more than one drum for the **treatment** of the textiles, where drums cannot be operated simultaneously is not regarded as having a **multi-drum mode**. In this case each drum shall be tested separately.

### 3.1.Z23

#### simultaneous programme

series of **operations** which are predefined within the **multi-drum tumble dryer** and which are declared by the manufacturer as suitable for drying certain textile types in two or more drums at the same time

### 3.1.Z24

#### simultaneous cycle

complete drying process, started at the same time for two or more drums, as defined by the **simultaneous programme** selected, consisting of a series of **operations** (tumbling, heating, cool down, etc.) and including any **operations** that occur after the completion of the **simultaneous programme**

Note Z1 to entry: Examples of **operations** that can occur after the completion of the **programme** are monitoring and antcreasing (where applicable).

**3.1.Z25****combined rated capacity**

sum of **rated capacities** of all drums suitable for running a **simultaneous programme**

**3.1.Z26****combined programme time**

time from the simultaneous initiation of the **programme** for two or more drums (excluding any user programmed delay) until the end of the **simultaneous programme**.

Note Z1 to entry: If the end of **programme** is not indicated, the **combined programme time** is equal to the **combined cycle time**.

**3.1.Z27****combined cycle time**

time from the simultaneous initiation of the **programme** for two or more drums (excluding any user programmed delay) until all activity ceases; activity is considered to have ceased when the power consumption reverts to a steady-state condition that persists indefinitely without user intervention; if there is no activity after the end of the **programme**, the **combined cycle time** is equal to the **combined programme time**

Note Z1 to entry: **Cycle time** includes any activity that can occur after the **programme** is completed. This could include any electronic activity or any additional mechanical activity that occurs for a limited period after any end of programme indicator. Any cyclic event that occurs indefinitely is considered to be steady-state.

**3.1.Z28****combined energy consumption**

sum of the electrical energy consumption for all drums over a **simultaneous programme**

“

In 3.2 **replace** Table Z1 with the following:

“

**Table Z1 — Symbols relating to Annex ZA**

| Symbol     | Symbol in IEC 61121:2012 | Units | Definition                                                                                         | Clause (first appearance) |
|------------|--------------------------|-------|----------------------------------------------------------------------------------------------------|---------------------------|
| [ ]        | -                        |       | rounding up/down to full integer values (no decimal places) as described in EN ISO 80000-1         | ZA.2                      |
| [ ]        | -                        |       | always rounding up to full integer values (no decimal places)                                      | ZA.2                      |
| [ ]        | -                        |       | always rounding down to full integer values (no decimal places)                                    | ZA.2                      |
| <i>c</i>   | W                        | kg    | <b>Rated capacity</b> to calculate the Standard Annual Energy Consumption of <b>tumble dryer</b> . | <b>ZA.5.9</b>             |
| <i>CI</i>  | -                        |       | Two sided confidence interval per <b>treatment</b>                                                 | ZA.2                      |
| <i>EEI</i> | -                        |       | Energy Efficiency Index of a tumble dryer                                                          | ZA.5.9                    |

| Symbol                  | Symbol in IEC 61121:2012 | Units | Definition                                                                         | Clause (first appearance) |
|-------------------------|--------------------------|-------|------------------------------------------------------------------------------------|---------------------------|
| $\overline{E_{dry}}$    | -                        | kWh   | Average energy consumption for <b>treatment full</b>                               | ZA.5.6                    |
| $\overline{E_{dry1/2}}$ | -                        | kWh   | Average energy consumption for <b>treatment half</b>                               | ZA.5.6                    |
| $E_{tc}$                | -                        | kWh   | weighted energy consumption per <b>cycle</b> for the combined <b>test series</b>   | ZA.5.6                    |
| $\overline{C_{dry}}$    | -                        | %     | Condensation Efficiency for the treatment full                                     | ZA.5.3                    |
| $\overline{C_{dry1/2}}$ | -                        | %     | Condensation Efficiency for the treatment half                                     | ZA.5.3                    |
| $C_t$                   | -                        | %     | weighted Condensation Efficiency Index for the combined test series                | ZA.5.3                    |
| $\overline{L_{dry}}$    | -                        | l     | Average value for the total water consumption for the <b>treatment full</b>        | ZA.5.4                    |
| $\overline{L_{dry1/2}}$ | -                        | l     | Average water consumption for <b>treatment half</b>                                | ZA.5.4                    |
| $L_t$                   | -                        | l     | weighted value for the total water consumption for the combined <b>test series</b> | ZA.5.4                    |
| $W_{n,part}$            | -                        | g     | Nominal partial <b>test load mass</b>                                              | ZA.2                      |
| $n_{SH}$                | -                        |       | Number of sheets at rated <b>test load mass</b>                                    | ZA.2                      |
| $n_{PC}$                | -                        |       | Number of pillowcases at rated <b>test load mass</b>                               | ZA.2                      |
| $n_T$                   | -                        |       | Number of towels at rated <b>test load mass</b>                                    | ZA.2                      |
| $n_{A,SH}$              | -                        |       | Number of sheets in part A                                                         | ZA.2                      |
| $n_{A,PC}$              | -                        |       | Number of pillowcases in part A                                                    | ZA.2                      |
| $n_{A,T}$               | -                        |       | Number of towels in part A                                                         | ZA.2                      |
| $n_{B,SH}$              | -                        |       | Number of sheets in part B                                                         | ZA.2                      |
| $n_{B,PC}$              | -                        |       | Number of pillowcases in part B                                                    | ZA.2                      |
| $n_{B,T}$               | -                        |       | Number of towels in part B                                                         | ZA.2                      |