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Responsible committee: CPL/59/6 Floor treatment appliances

Interested committees:

Title: BS EN IEC/ASTM 62885-10 Battery-related items for surface cleaning appliances for household or similar use -
Methods for measuring the performance

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- ii) affects other national standard(s)
- 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 Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.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
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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.	



59F/517/CD

COMMITTEE DRAFT (CD)

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59F/484/NP, 59F/495A/RVN

IEC SC 59F : SURFACE CLEANING APPLIANCES

SECRETARIAT:

Sweden

SECRETARY:

Mr Ingvar Eriksson

OF INTEREST TO THE FOLLOWING COMMITTEES:

TC 61

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:

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

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

Battery-related items for surface cleaning appliances for household or similar use - Methods for measuring the performance

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**BATTERY-RELATED ITEMS FOR SURFACE CLEANING APPLIANCES FOR
HOUSEHOLD OR SIMILAR USE - METHODS FOR MEASURING THE
PERFORMANCE –****FOREWORD**

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IEC/ASTM 62885-10 has been prepared by a Joint Working Group of subcommittee 59F: Surface cleaning appliances, of IEC technical committee 59: Performance of household and similar electrical appliances and ASTM Committee F11: Vacuum cleaners. It is an International Standard.

It is published as a dual logo standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
59F/XX/FDIS	59F/XX/RVD

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Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

A list of all the parts in the IEC 62885 series, under the general title Surface cleaning appliances, can be found on the IEC website.

In this standard, the following print types are used:

- terms defined in Clause 3: **bold type**.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

BATTERY-RELATED ITEMS FOR SURFACE CLEANING APPLIANCES FOR HOUSEHOLD OR SIMILAR USE - METHODS FOR MEASURING THE PERFORMANCE –

1 Scope

This part of IEC 62885 is applicable for measurements of battery-related items of surface cleaning appliances within the scope of IEC SC 59F Surface cleaning appliances which are operated by rechargeable batteries. These include dry vacuum cleaners, wet cleaning appliances, cleaning robots, above-the-floor cleaning appliances and alike for household or similar use. This standard does not cover appliances operated by non-rechargeable batteries and professional, commercial and outdoor cleaning products.

NOTE 1 Measurements of the performance of battery-operated surface cleaning appliances can be found in other parts of the IEC 62885 series, under the general title Surface cleaning appliances.

The purpose of this document is to specify essential battery-related characteristics of battery-operated surface cleaning appliances which are of interest to users and to describe methods for measuring these characteristics.

NOTE 2 Due to the influence of environmental conditions, variations in time, origin of test materials and proficiency of the operator, some of the described test methods will give more reliable results when applied for comparative testing of a number of appliances at the same time, in the same laboratory and by the same operator.

NOTE 3 The methods here can be applied with modifications for surface-cleaning product types or technologies not currently covered within the scope.

For safety requirements, reference is made to IEC 60335-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62301:2011, *Household electrical appliances - Measurement of standby power*

IEC TS 62885-1, *Surface cleaning appliances - Part 1: General requirements on test material and test equipment*

IEC 62885-2, *Surface cleaning appliances - Part 2: Dry vacuum cleaners for household or similar use - Methods for measuring the performance*

IEC 62885-3, *Surface cleaning appliances - Part 3: Wet carpet cleaning appliances - Methods for measuring the performance*

IEC/ASTM 62885-6, *Surface cleaning appliances - Part 6: Wet hard floor cleaning appliances for household or similar use - Methods for measuring the performance*

IEC/ASTM 62885-7, *Surface cleaning appliances - Part 7: Dry cleaning robots for household or similar use - Methods for measuring the performance*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE It is explicitly noted that terms and definitions from the documents listed in [Clause 2](#) apply.

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ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Battery related terms and definitions

3.1.1

fully charged

point during charging when, according to the manufacturer's instructions, product settings, by visual indicator or time period, the battery does not need to be charged any more

Note 1 to entry: Depending on the battery's state of discharge, it may not be necessary to charge the battery for the full [charging time](#), but rather only for a [partial charging time](#).

3.1.2

fully discharged

point in use when the manufacturer's instructions state the product is [fully discharged](#) or the motor respectively energized components, that are intended for the cleaning function stop operating or cannot restart due to low battery, whichever comes first

3.1.3

charging time

time required for the battery to reach its [fully charged](#) state after being [fully discharged](#)

3.1.4

partial charging time

time required for the battery to reach its [fully charged](#) state from an undefined discharge level, other than [fully discharged](#)

3.1.5

runtime

effective cleaning time provided by a battery-operated surface cleaning appliance from a [fully charged](#) condition until the appliance has dropped below a defined value for the cleaning function

Note 1 to entry: The duration of the [runtime](#) will depend on given settings, modes, test condition and configurations of the appliance.

3.1.6

average effective power intake at maximum operation

in W means for battery-operated surface cleaning appliances the average power level over a certain time that the machine is not capable of exceeding in any operating condition set either by the user or automatically by the appliance

3.1.7

battery charger

device that is primarily used to charge the batteries and battery packs of surface cleaning appliances, which contains dedicated circuitry to regulate the charging current and voltage

3.1.8

spare battery

battery that is identical in type, fit and performance to the battery supplied with the cordless product, and is changeable without or with commonly available tools

Note 1 to entry: The capacity of the [spare battery](#) can be different from the supplied battery, which can affect the [runtime](#) and [charging time](#).

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3.2 Mode related terms and definitions

3.2.1

non-active mode

mode in which the appliance or battery charger is connected to a mains power source and provides no main function

3.2.2

active mode / main function

mode of a charger of the battery which is connected to a mains power source and recharges the battery to a **fully charged** condition

3.2.3

off mode

mode where the cordless surface cleaning appliance or charger is connected to a mains power source and is not providing any standby, network mode or active mode function and where the mode usually persists.

3.2.4

standby mode

mode of a condition where the charger of the surface cleaning appliance is connected to the mains power source and provides only one or more of the following functions, which may persist for an indefinite time:

- a) reactivation function;
- b) reactivation function and only an indication of enabled reactivation function;
- c) information or status display;

3.2.5

maintenance mode

mode of a charging circuitry that maintains a battery at a **fully charged** state while the battery remains connected to the charging circuitry

Note 1 to entry: Some products periodically recharge the battery while connected to mains power and run some functions from the battery between these recharging cycles. This is still considered to be maintenance mode. Laboratories will need to understand the product behaviour and to measure for a sufficient period to obtain a representative measurement such as a number of whole recharging cycles, where these occur.

Note 2 to entry: Maintenance mode can include the display of information or status and networked standby mode when connected to a network.

3.2.6

networked standby mode

mode in which the equipment is able to resume a function by way of a remotely initiated trigger from a network connection

Note 1 to entry: Since battery-operated surface cleaning appliances do not take the energy for a network connection directly from the mains but are powered by the batteries, network standby is part of the maintenance mode energy consumption.

Note 2 to entry: If a clear determination of the networked standby is required, guidance and instructions are described in IEC 63474:2023. The applicability to battery operated surface cleaning appliances should be evaluated.

3.3 Other terms and definitions

3.3.1

docking station

unit that includes devices for manually or automatically charging the battery, for information processing, or for other functions in support of the surface cleaning appliance operation

Note 1 to entry: Docking stations can perform a variety of support functions for the main product such as dust removal from the appliance, drying, moistening of roller/mops or pads, filling water, discharge wastewater and more.

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3.3.2**trial**

single instance of a performance measurement carried out under identical conditions that can be repeated multiple times

3.3.3**run**

subset of a [trial](#) where one or more factors affecting the test results is (are) changed

4 General conditions for testing**4.1 Atmospheric conditions**

Unless otherwise specified, the test procedures and measurements shall be carried out under the following conditions

Standard atmosphere 23/50

Temperature:	$(23 \pm 2) ^\circ\text{C}$
Relative humidity:	$(50 \pm 5) \%$
Absolute air pressure:	91,3 kPa to 106,3 kPa

Temperature and humidity conditions within the specified ranges are required for good repeatability and reproducibility. Care should be taken to avoid changes during a test.

4.2 Lighting conditions

For autonomously operating appliances (cleaning robots), the test procedures and measurements shall be carried out under the following lighting conditions unless otherwise specified:

Intensity:	$(200 \pm 50) \text{ lx}$
Colour temperature:	2 000 K to 7 000 K

Measurements shall be made at floor level.

4.3 Test equipment and materials**4.3.1 General**

To minimize the influence of electrostatic phenomena, measurements on carpets shall be carried out on a flat floor consisting of a smooth untreated pine plywood or equivalent panel, at least 15 mm thick and of a size equal to or larger than the test carpet.

Equipment and materials for measurements (devices, test carpets, test dust, etc.) to be used in a **test** shall, prior to the **test**, be stored for at least 16 h at standard atmospheric conditions in accordance with [4.1](#).

4.4 Voltage and frequency

Unless otherwise stated, charging for measurements shall be carried out at rated voltage with a tolerance of $\pm 1 \%$ and, if applicable, at rated frequency.

Battery chargers not marked with a rated frequency shall be powered at either $(50 \pm 1) \text{ Hz}$ or $(60 \pm 1) \text{ Hz}$ with a total harmonic distortion $< 3 \%$, as is common in the country of use. All charging should occur at the nominal system voltage of the country concerned.

4.5 Preparation of batteries with the appliances under test

Any unused battery shall be [fully charged](#) and [fully discharged](#) three times prior to conducting the first test on a battery-operated surface cleaning appliance. The sequence shall be repeated with an interval of at least 30 min after each discharge. No operation shall be carried out during