IEC/ASTM 62885-6

Edition 2.0 2023-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Surface cleaning appliances – Part 6: Wet hard floor cleaning appliances for household or similar use – Methods for measuring the performance

Appareils de nettoyage des sols – Partie 6: Appareils de nettoyage des sols durs et mouillés à usage domestique ou analogue – Méthodes de mesure de l'aptitude à la fonction



IEC/ASTM 62885-6:2023-10(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2023 IEC, Geneva, Switzerland
Copyright © 2023 ASTM International

All rights reserved. Unless otherwise specified, 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 being secured. Requests for permission to reproduce should be addressed to either IEC at the address below or IEC's member National Committee in the country of the requester or from ASTM.

IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

ASTM Headquarters
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
United States of America
mailto:mkhooper@astm.org
www.astm.org

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, …). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

IEC/ASTM 62885-6

Edition 2.0 2023-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Surface cleaning appliances –
Part 6: Wet hard floor cleaning appliances for household or similar use – Methods for measuring the performance

Appareils de nettoyage des sols –
Partie 6: Appareils de nettoyage des sols durs et mouillés à usage domestique ou analogue – Méthodes de mesure de l'aptitude à la fonction

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 97.080

ISBN 978-2-8322-7665-5

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

FOREWORD 5
1 Scope 7
2 Normative references 7
3 Terms and definitions 8
4 General conditions for testing 10
4.1 Atmospheric conditions 10
4.2 Test equipment and materials 10
4.3 Voltage and frequency 10
4.4 Running-in of wet hard floor cleaners 11
4.4.1 Mains-operated wet hard floor cleaner 11
4.4.2 Cordless wet hard floor cleaner 11
4.5 Equipment of the wet hard floor cleaner 11
4.6 Operation of the wet hard floor cleaner 12
4.6.1 General 12
4.6.2 Charging of the cordless wet hard floor cleaner 13
4.6.3 Battery conditions for testing 13
4.7 Conditioning prior to each test 14
4.7.1 General 14
4.7.2 Preparations specific to steam cleaners 14
4.7.3 Preparations for other wet hard floor cleaners 14
4.7.4 Determining track cleaning width 15
4.8 Mechanical operator 15
4.9 Number of samples 15
4.10 Test floor tiles 15
4.11 Stroke length and test area 16
4.12 Stroke speed 16
5 Wet hard floor cleaning tests 16
5.1 Stain cleaning efficiency of hard flat floors 16
5.1.1 General 16
5.1.2 Apparatus 16
5.1.3 Materials 17
5.1.4 Sampling and test trials 17
5.1.5 Method 17
5.2 Soil cleaning efficacy of hard flat floors 26
5.2.1 General 26
5.2.2 Apparatus 26
5.2.3 Materials 26
5.2.4 Sampling and test trials 26
5.2.5 Method 26
5.3 Battery runtime determination for cordless wet hard floor cleaners 33
5.3.1 Test equipment 33
5.3.2 Test setup 33
5.3.3 Test procedure 33
5.3.4 Determination of battery runtime 33
5.4 Floor wetness *(future development)* 35
5.5 Floor coverage *(future development)* 35
5.6 Soil removal along walls (i.e. edge cleaning) *(future development)* 35

5.7 Pad loading test for steam cleaners *(future development)* 35
5.8 Air data *(future development)* 35
6 Miscellaneous tests 35
6.1 General 35
6.2 Motion resistance *(future development)* 35
6.3 Cleaning under furniture *(future development)* 35
6.4 Radius of operation 35
6.4.1 Purpose 35
6.4.2 Conditions for measurement 35
6.4.3 Determination of radius of operation 35
6.5 Impact resistance for floor cleaning heads 36
6.5.1 Purpose 36
6.5.2 Test equipment 36
6.5.3 Determination of impact resistance 36
6.6 Mass 36
6.7 Weight in hand 36
6.8 Specific cleaning time 37
6.9 Dimensions 37
6.10 Noise level *(future development)* 37
6.11 Energy consumption *(future development)* 37
6.12 Operational life-time test *(future development)* 37
6.13 Rated input power 37
7 Test material and equipment 38
7.1 General 38
7.2 Material for tests 38
7.2.1 Test surfaces 38
7.2.2 Test soils 38
7.2.3 Demineralized water 40
7.3 Equipment for tests 40
7.3.1 Runtime test plate 40
7.3.2 Mechanical operator 40
7.3.3 Tile floor cleaning fixture 41
7.3.4 Adjustable pipette 41
7.3.5 Stain and Soil application templates 42
7.3.6 Hold-downs and guides 43
7.3.7 Device for impact test 44
7.3.8 Magnetic stirring device 44
7.3.9 Soil mixing jars 45
7.3.10 Spoon and spatula for spreading pasty soils 46
7.3.11 Electronic scale for weighting tiles 46
7.3.12 Tile drying rack for preparing and drying soil stains 47
7.3.13 Food strainer for removal of solids in tartar sauce 47
8 Instructions for use 47
Annex A (informative) Information on materials 48
Annex B (informative) Information at the point of sale 49
Bibliography 50

Figure 1 – Track cleaning width (W_T) with brush 15
Figure 2 – Marking of tile 19
Figure 3 – Soiling with coffee 20
Figure 4 – Application of pasty soils 21
Figure 5 – Removal of excess soil 22
Figure 6 – Cleaning stroke starting position 23
Figure 7 – End position after first stroke 24
Figure 8 – Jar with magnetic spinner (tare weighted) 27
Figure 9 – Properly mixed soil grime 28
Figure 10 – Soil grime settling results after 12 h 28
Figure 11 – Location of type B soiling template on porcelain tile 29
Figure 12 – Soiling a porcelain tile with pipette 29
Figure 13 – Soiled tile after 4 h drying time 30
Figure 14 – Tile placement and cleaning stroke starting position 31
Figure 15 – End position after forward cleaning stroke 31
Figure 16 – Test setup for runtime determination 33
Figure 17 – Example of zigzag cleaning pattern 37
Figure 18 – Mechanical operator for executing cleaning tests 40
Figure 19 – Tile floor cleaning fixture with guides and stroke pacing device 41
Figure 20 – Adjustable pipette: 100 µl to 1000 µl range for applying liquid stains 41
Figure 21 – Stain application template (type A) 42
Figure 22 – Silicone soil grime application template (type B) 43
Figure 23 – Floor tile hold-downs and guides 43
Figure 24 – Drum for impact test 44
Figure 25 – Magnetic stirring device (example) 45
Figure 26 – 475 ml glass mixing jar example 45
Figure 27 – Spoon and spatula examples 46
Figure 28 – Electronic scale example 46
Figure 29 – Tile drying rack example 47
Figure 30 – Food strainer example 47

Table 1 – Example of corrected cleaning results with applied P_f 25
Table 2 – Example of cleaning results with P_f applied 25
Table 3 – Soils, composition, tools 39
Table 4 – Distance between holes 42
Table 5 – Inside dimension (b) 43

© IEC/ASTM 2023

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

SURFACE CLEANING APPLIANCES –

Part 6: Wet hard floor cleaning appliances for household or similar use – Methods for measuring the performance

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 non-governmental 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.
2) The formal decisions or agreements of 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 IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

IEC/ASTM 62885-6 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.

This second edition cancels and replaces the first edition published in 2018. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Expanded the Scope to include cordless cleaners.
b) Changed definition for "cleaning width" to "track cleaning width" in 3.7 and provided instructions for determining "track cleaning width" in 4.7.4.
c) Changed "runtime" definition to "battery runtime" in 3.22.
d) Added IKW soil instructions, and also a penalty factor calculation with correction examples for products designed with cleaning gaps to section 5.1 "Stain cleaning efficiency of hard flat floors".
e) Retitled 5.2 "Dirt pickup test" to "Soil cleaning efficacy of hard flat floors" and added comprehensive instructions for executing the method.
f) Added section 5.3 "Battery runtime" procedure patterned after IEC 62885-4 cordless standard.
g) Modified Test soils in 7.2.2. to add IKW and Akzo-Nobel soils.

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

Draft	Report on voting
59F/480/FDIS	59F/482/RVD

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.

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.

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**.

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.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

The content of the corrigendum 1 (2024-11) has been included in this copy.

© IEC/ASTM 2023

SURFACE CLEANING APPLIANCES –

Part 6: Wet hard floor cleaning appliances for household or similar use – Methods for measuring the performance

1 Scope

This part of IEC 62885 is applicable for measurements of the performance of mains-operated and cordless wet hard floor cleaning appliances for household or similar use. In the case of appliances with combined functionality, this document only addresses the wet cleaning functionality.

The purpose of this document is to specify essential performance characteristics of wet hard floor cleaning appliances that are of interest to users and to describe methods for measuring these characteristics.

NOTE 1 Owing to the influence of environmental conditions, variations in time, origin of test materials and proficiency of the operator, most of the described test methods give more reliable results when applied to comparative testing of a number of appliances at the same time, in the same laboratory and by the same operator.

NOTE 2 This document is not intended for cleaning appliances according to IEC 60335-2-79 and robotic wet hard floor cleaning appliances.

For safety requirements, reference is made to IEC 60335-1, IEC 60335-2-2, IEC 60335-2-10, and IEC 60335-2-54.

A recommendation on information for the consumer at the point of sale is given in Annex B.

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 60335-1, *Household and similar electrical appliances – Safety – Part 1: General requirements*

IEC 60335-2-2, *Household and similar electrical appliances – Safety – Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances*

IEC 60335-2-10*, Household and similar electrical appliances – Safety – Part 2-10: Particular requirements for floor treatment machines and wet scrubbing machines*

IEC 60335-2-54*, Household and similar electrical appliances – Safety – Part 2-54: Particular requirements for surface-cleaning appliances for household use employing liquids or steam*

IEC 60688, *Electrical measuring transducers for converting A.C. and D.C. electrical quantities to analogue or digital signals*

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

3 Terms and definitions

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

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
wet hard floor cleaner
electrically operated appliance that removes wet or dry stains and soils (e.g. beverage & food stains, floor grime, etc.) from a hard floor surface to be cleaned by use of water alone, a detergent solution mix, or use of steam, and may employ an air flow created by a vacuum developed within the unit, the removed material being separated in the appliance and the cleaned suction air being returned to the ambient air

3.2
cordless wet hard floor cleaner
wet hard floor cleaner that is not mains-operated

Note 1 to entry: The term "cordless" is equivalent to "battery-operated" throughout the document.

3.3
steam cleaner
wet hard floor cleaner that uses steam, and generally employs a soft absorbent pad to transfer hot moisture to the floor surface and to absorb and remove the stains and soils

3.4
cleaning head
plain nozzle, pad, or brush attached to a **wet hard floor cleaner** that is applied to a surface to be cleaned

3.5
active nozzle
cleaning head provided with a driven agitation device to assist stain or soil removal

3.6
passive nozzle
cleaning head without any driven agitation device

3.7
W_T
track cleaning width
maximum measured width of the cleaning pad or brush(es) employed in the **cleaning head** of the **wet hard floor cleaner**, expressed in millimetres, and determined in accordance with 4.7.4

3.8
cleaning cycle
execution of one **double stroke** to be carried out at a specified **stroke speed** over the test area

3.9
stroke pattern
arrangement of the **forward strokes** and **return strokes** on the surface to be cleaned

3.10
parallel pattern
stroke pattern where the **forward strokes** and the **return strokes** are congruent

3.11
in-house wet hard floor reference cleaner
electrically operated laboratory equipment designated for internal comparison within a laboratory

3.12
stroke speed
speed of the **cleaning head**, moved as uniformly as possible, during a **forward stroke** or a **return stroke**

3.13
stroke length
distance between the two parallel lines defining the limits of a **stroke pattern**

3.14
double stroke
one forward and one backward movement of the **cleaning head** performed in a **parallel pattern**

3.15
forward stroke
forward movement of a **stroke pattern**

3.16
return stroke
backward movement of a **stroke pattern**

3.17
test
entirety or superset of all **trials** and **trial** batches of all samples to be measured for a single **wet hard floor cleaner** model

3.18
trial
single instance of a performance measurement carried out under identical conditions that can be repeated multiple times

3.19
fully charged, adj
point during charging when, according to the manufacturer's instructions, by indicator or time period, the product does not need to be charged anymore

Note 1 to entry: See 4.6.2 for specific charging instructions.

3.20
fully discharged, adj
point in use when the manufacturer's instructions state the product is **fully discharged** or the cleaner stops operating due to low battery, whichever comes first

3.21
replacement battery
battery that is identical in type, fit, and performance to the battery supplied with the cordless product, and is changeable without tools

3.22
battery runtime
effective cleaning time provided by the battery of a **cordless wet hard floor cleaner** from a **fully charged** condition as per 3.19 until the cleaner is **fully discharged** as per 3.20

3.23
test runtime
max period of initial runtime from a **fully charged** condition (3.19) to be used for all **test** evaluations as determined per 5.3.5

3.24
active depth of the cleaning head
distance from the front edge of the **cleaning head** to its rear edge or a line 10 mm behind the rear edge of the suction opening(s) on the underside of the **cleaning head**, whichever is the shortest

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 ± 2) °C
Relative humidity:	(50 ± 5) %
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**.

For test procedures and measurements, which may be carried out at conditions other than standard atmospheric conditions, the ambient temperature shall be maintained at (23 ± 5) °C.

NOTE Due to the influence of environmental conditions, variations in time, origin of test materials and proficiency of the operator, most of the described test methods 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.

4.2 Test equipment and materials

Equipment and materials for measurements (devices, test surfaces, stains, soils, 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.

4.3 Voltage and frequency

Unless otherwise stated, measurements shall be carried out at rated voltage with a tolerance of ±1 % and, if applicable, at rated frequency.

Wet hard floor cleaners designed for DC only shall be operated at DC. **Wet hard floor cleaners** designed for both AC and DC shall be operated at AC. **Wet hard floor cleaners** not marked with rated frequency shall be operated at either (50 ± 1) Hz or (60 ± 1) Hz with a total harmonic distortion of < 3 %, as is common in the country of use.

For **wet hard floor cleaners** with a rated voltage range, measurements shall be carried out at the mean value of the voltage range if the difference between the limits of the range does not exceed 10 % of the mean value. If the difference exceeds 10 % of the mean value, measurements shall be carried out at both the upper and lower limits of the voltage range.

If the rated voltage differs from the nominal system voltage of the country concerned, measurements carried out at rated voltage can give test results misleading for the consumer, and additional measurements could be required. If the test voltage differs from the rated voltage, this shall be reported.

Cordless wet hard floor cleaner chargers not marked with rated frequency shall be powered at either (50 ± 1) Hz or (60 ± 1) 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.

4.4 Running-in of wet hard floor cleaners

4.4.1 Mains-operated wet hard floor cleaner

Prior to the first **trial**, the appliance shall be kept operating while dispensing cleaning liquid, steam, etc. for 30 min or until one tank of liquid, steam, etc. has been depleted. If the appliance employs a pad, the pad shall be removed. If the appliance employs a vacuum, the run-in time shall be 2 h, and the appliance shall be operated with unrestricted air flow during the run-in period. It is not required to deplete more than one tank of liquid, steam, etc. during the 2 h run-in period. If the appliance employs an **active nozzle**, the agitation device shall be running but not in contact with the floor, unless otherwise specified by the manufacturer.

Prior to conducting any series of **tests**, the age, condition, and history of the product shall be recorded.

4.4.2 Cordless wet hard floor cleaner

4.4.2.1 Preparation of cordless wet hard floor cleaner

Prior to the first **trial** (and following preparations in line with the manufacturer's instructions), the appliance shall be **fully charged** in accordance with the manufacturer's instructions and then kept operating while dispensing liquid, steam, etc. until **fully discharged**. The sequence shall be repeated one more time with an interval of at least 30 min after each discharge. No operation shall be carried out during this waiting time. If the appliance employs a pad, the pad shall be removed. If the appliance employs a vacuum, the appliance shall be operated with unrestricted air flow during the running-in sequence. If the appliance employs an **active nozzle**, the agitation device shall be running but not in contact with the floor, unless otherwise specified by the manufacturer. Depletion of no more than one tank of liquid, steam, etc. is required during the running-in sequence.

Prior to conducting any series of **tests**, the age, condition, and history of the product shall be recorded.

4.4.2.2 Preparation of the battery

Any unused Li-ion battery shall be **fully charged** and **fully discharged** once prior to conducting the first **trial** on a **cordless wet hard floor cleaner**. All other battery chemistry/technology types shall be **fully charged** and **fully discharged** three times prior to conducting the first **trial** on a **cordless wet hard floor cleaner**. **Fully charged** and **fully discharged** conditions are defined in 3.19 and 3.20, respectively.

NOTE It is understood that some cordless vacuums do not allow discharge below a certain energy level for battery protection.

4.5 Equipment of the wet hard floor cleaner

If the **wet hard floor cleaner** is provided with a reusable pad(s) or brush that is intended to be removable, it shall be cleaned and prepared according to the manufacturer's instructions prior to each trial.

Wet hard floor cleaners with receptacles to collect dirty cleaning solutions shall be cleaned and/or maintained in accordance with relevant clauses and carried out according to the manufacturer's instructions.

4.6 Operation of the wet hard floor cleaner

4.6.1 General

The grip of cleaners shall be held at a height of (800 ± 50) mm above the test surface. For **cleaning heads** without pivoting connectors, it shall be ensured that the bottom of the **cleaning head** be made parallel with the test surface by adjusting the handle height within the tolerances. Any adjustment shall be reported.

During measurements where the agitation device of an **active nozzle** is not used as in normal operation, the agitation device shall be running but not in contact with any surface.

The following wording regarding declaration and compliance shall also apply: "For declaration and compliance purposes, related **tests** conducted on a hard floor shall be conducted with the same **wet hard floor cleaner** setting configurations such as power, **cleaning head** and **cleaning head** setting." Related **tests** are:

- test to measure the stain removal from a hard floor;
- test to measure soil removal from a hard floor;
- test to measure the energy consumption for cleaning hard floor;
- test to measure the noise level on a hard floor;
- test to measure **battery runtime** on a hard floor.

Unless otherwise specified, the cleaner setting configurations, such as power, **cleaning head** and **cleaning head** setting, shall be used, and adjusted in accordance with the manufacturer's instructions for the **test** to be carried out. Any safety-related device shall be allowed to operate.

In the absence of unambiguous instructions within the manufacturer's instructions, the product shall be tested with settings that are in accordance with any explicitly clear text, symbol or pictogram that is identifiable on the product.

If, after following the above order of checks, the tester believes the device under **test** to be in a configuration that is ambiguous, or that multiple configurations are possible with no way to clearly determine which is the most suitable for a given task, then the manufacturer shall be contacted for additional guidance.

Complete details of the settings used for each cleaning task, such as power, height settings and the like shall be recorded in the test documentation.

If values for the performance of a product measured in accordance with this document are published/declared (e.g. in the technical documentation), accurate and unambiguous details of the settings that were used during the test procedure shall be provided.

NOTE Performance in other settings or combinations can differ from the results in the declaration settings; however, this document does not address those results.