# IEC 62841-4-3

Edition 1.1 2025-07

# INTERNATIONAL STANDARD

CONSOLIDATED VERSION

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety -**
**Part 4-3: Particular requirements for pedestrian controlled walk-behind lawnmowers**

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# CONTENTS

FOREWORD ..... 4
1 Scope ..... 7
2 Normative references ..... 8
3 Terms and definitions ..... 9
4 General requirements ..... 11
5 General conditions for the tests ..... 11
6 Radiation, toxicity and similar hazards ..... 12
7 Classification ..... 12
8 Marking and instructions ..... 12
9 Protection against access to live parts ..... 21
10 Starting ..... 21
11 Input and current ..... 21
12 Heating ..... 21
13 Resistance to heat and fire ..... 22
14 Moisture resistance ..... 22
15 Resistance to rusting ..... 23
16 Overload protection of transformers and associated circuits ..... 23
17 Endurance ..... 23
18 Abnormal operation ..... 24
19 Mechanical hazards ..... 25
20 Mechanical strength ..... 45
21 Construction ..... 47
22 Internal wiring ..... 53
23 Components ..... 53
24 Supply connection and external flexible cords ..... 55
25 Terminals for external conductors ..... 57
26 Provision for earthing ..... 57
27 Screws and connections ..... 57
28 Creepage distances, clearances and distances through insulation ..... 57
Annexes ..... 62
Annex I (informative) Measurement of noise and vibration emissions ..... 62
Annex K (normative) Battery tools and battery packs ..... 72
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources ..... 95
Annex AA (normative) Safety signs ..... 108
Annex BB (normative) Test enclosure ..... 114
Annex CC (normative) Rotary lawnmower foot protection test ..... 123
Annex DD (normative) Lawnmower cutting means stopping time test ..... 132
Annex EE (informative) Example of a material and construction for fulfilling the requirements for an artificial surface ..... 134
Bibliography ..... 136

Figure 101 – Operator control zones ..... 29
Figure 102 – Handle distance and rear cutting means enclosure for rotary lawnmowers ..... 32
Figure 103 – Example of design for rotary lawnmower front opening ..... 33
Figure 104 – Examples of front opening allowance for rotary lawnmowers ..... 35
Figure 105 – Obstruction test ..... 41
Figure 106 – Guarding of cylinder lawnmower cutting means, general ..... 43
Figure 107 – Guarding of cylinder lawnmower cutting means, side coverage ..... 43
Figure 108 – Guarding of cylinder lawnmower cutting means, free and rear discharge ..... 44
Figure 109 – Guarding of cylinder lawnmower cutting means, front discharge ..... 44
Figure 110 – Cylinder lawnmower throw line and handle distance ..... 45
Figure 111 – Impact test fixture for handle insulation ..... 49
Figure 112 – Lawnmower cutting means measurement ..... 53
Figure 113 – Test assembly for accessibility of attachment plug blades ..... 56
Figure I.101 – Microphone positions on the hemisphere (see Table I.101) ..... 63
Figure I.102 – Examples of positions of transducers for lawnmowers ..... 69
Figure K.301 – Examples of separable battery pack connection points and direction of applied force ..... 89
Figure AA.1 – Safety signs illustrating – "WARNING – Beware of thrown objects – keep bystanders away" ..... 108
Figure AA.2 – Safety signs illustrating – "WARNING – Remove plug from mains before maintenance or if cord is damaged" ..... 109
Figure AA.3 – Safety sign illustrating – "WARNING – Keep the supply cord away from the blades” ..... 109
Figure AA.4 – Safety signs illustrating – "WARNING – Keep hands and feet away from the blades" ..... 110
Figure AA.5 – Safety signs illustrating – "WARNING – Disconnect battery before maintenance" ..... 111
Figure AA.6 – Safety signs illustrating – "WARNING – Remove the disabling device before maintenance" ..... 112
Figure AA.7 – Safety signs illustrating – "WARNING – Activate the disabling device before maintenance" ..... 113
Figure AA.8 – Safety sign illustrating – "DANGER – Keep hands and feet away" ..... 113
Figure BB.1 – Test enclosure, construction detail ..... 114
Figure BB.2 – Base detail ..... 115
Figure BB.3 – Example of base, nail plan ..... 115
Figure BB.4 – Test enclosure, general view ..... 117
Figure BB.5 – Test enclosure, single spindle rotary lawnmower ..... 118
Figure BB.6 – Test enclosure, multiple spindle rotary lawnmower ..... 119
Figure BB.7 – Fixture for fibreboard penetration test ..... 121
Figure CC.1 – Foot probe ..... 124
Figure CC.2 – Areas to be probed for rotary lawnmowers ..... 126
Figure CC.3 – Area to be probed for rotary lawnmowers with movable offset handles ..... 127
Figure CC.4 – Area to be probed for air-cushion lawnmowers with single cutting means ..... 128
Figure CC.5 – Area to be probed for air-cushion lawnmowers with multiple cutting means ..... 129
Figure CC.6 – Area to be probed for rotary lawnmowers with single cutting means ..... 130

Figure CC.7 – Area to be probed for rotary lawnmowers with multiple cutting means ..... 131
Figure EE.1 – Sketch of the measurement surface covered with an artificial surface ..... 135

Table 4 – Required performance levels ..... 25
Table 101 – Cutting means stopping time ..... 38
Table 102 – Permissible hits from thrown object test ..... 40
Table 9 – Pull and torque value ..... 57
Table 12 – Minimum creepage distances and clearances ..... 59
Table I.101 – Co-ordinates of microphone positions ..... 65
Table I.102 – Values of the constant *a* ..... 65
Table I.103 – Absorption coefficients ..... 66
Table 4 – Required performance levels ..... 83
Table 301 – Pull and torque value ..... 91
Table K.1 – Minimum creepage distances and clearances between parts of different potential ..... 93
Table K.2 – Minimum total sum of creepage distances and clearances to accessible surfaces ..... 94

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-3: Particular requirements for pedestrian controlled walk-behind lawnmowers

## 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.
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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.
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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) 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.

This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62841-4-3 edition 1.1 contains the first edition (2020-11) [documents 116/467/FDIS and 116/478/RVD] and its amendment 1 (2025-07) [documents 116/898/FDIS and 116/906/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62841-4-3 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

| FDIS | Report on voting |
|---|---|
| 116/467/FDIS | 116/478/RVD |

Full information on the voting for the approval of this International 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 4-3 is to be used in conjunction with the first edition of IEC 62841-1:2014 and IEC 62841-1:2014/AMD1:2025.

This Part 4-3 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for pedestrian controlled walk-behind lawnmowers.

Where a particular subclause of Part 1 is not mentioned in this Part 4-3, that subclause applies as far as reasonable. Where this document states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

The following print types are used:

– requirements: in roman type;
– *test specifications: in italic type;*
– notes: in small roman type.

The terms defined in Clause 3 are printed in **bold typeface**.

Subclauses, notes, tables and figures which are additional to those in Part 1 are numbered starting from 101.

Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this Part 4-3 are numbered starting from 301.

A list of all parts of the IEC 62841 series, under the general title: *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety*, can be found on the IEC website.

The committee has decided that the contents of this document and its amendment 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.

NOTE 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 36 months from the date of publication.

## 1 Scope

This clause of Part 1 is applicable, except as follows:

*Addition:*

This document applies to the design of pedestrian controlled walk-behind

– **cylinder lawnmowers**;

and

– **rotary lawnmowers**

equipped with

– metallic **cutting means**; and/or
– rigid non-metallic **cutting means**; and/or
– non-metallic **cutting means** with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of greater than 10 J.

NOTE 101 Machines that have non-metallic **cutting means** and a kinetic energy for each single cutting element of less than or equal to 10 J are considered to be lawn trimmers.

This document does not apply to

– robotic lawnmowers;
– remote-controlled lawnmowers;
– flail mowers or flail-type attachments;
– scissors type lawnmowers;
– grassland mowers;
– sickle bar mowers;
– towed/semi-mounted grass-cutting machines;
– scrub-clearing machines;
– lawn trimmers and lawn edge trimmers;
– lawn edgers;
– grass trimmers;
– brush cutters;
– brush saws;
– agricultural mowers;
– trailing seat/sulky units;
– ride-on machines, including those that can be operated in pedestrian controlled mode;
– non-powered lawnmowers;
– combustion engine powered lawnmowers;
– hybrid and fuel cell powered machines and associated charging systems; and
– garden tractors or their attachments.

NOTE 102 Robotic lawnmowers are covered by IEC 60335-2-107, and will be covered by a future part of IEC 62841.

~~NOTE 103 Lawn trimmers and lawn edge trimmers are covered by IEC 60335-2-91.~~

NOTE ~~104~~103 Lawn trimmers, lawn edge trimmers, grass trimmers, brush cutters and brush saws ~~will be~~ are covered by ~~a future part of~~ IEC 62841-4-4.

NOTE ~~105~~104 Lawn edgers ~~will be~~ are covered by ~~a future part of~~ IEC 62841-4-11[1].

NOTE 105 Battery powered ride-on lawnmowers will be covered by a future part of IEC 62841.

NOTE 106 In Europe (EN IEC 62841-4-3), the following requirements apply:

This document covers all significant hazards, hazardous situations or hazardous events relevant for machines covered by this document.

NOTE Z101 Essential requirements not mentioned in Table ZZ.1 are deemed to be not applicable, because the corresponding hazards are either not relevant for machines covered by this document or do not require specific action by the designer.

## 2 Normative references

This clause of Part 1 is applicable, except as follows:

*Addition:*

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 61058-2-6:2018, *Switches for appliances – Part 2-6: Particular requirements for switches used in electric motor-operated hand-held tools, transportable tools and lawn and garden machinery*

IEC 61672-1:2013, *Electroacoustics – Sound level meters – Part 1: Specifications*

ISO 354:2003, *Acoustics – Measurement of sound absorption in a reverberation room*

ISO 5395-1:2013, *Garden equipment – Safety requirements for combustion-engine-powered lawnmowers – Part 1: Terminology and common tests*
ISO 5395-1:2013/AMD1:2017

~~ISO 5395-2:2013/AMD1:2016, *Garden equipment – Safety requirements for combustion-engine-powered lawnmowers – Part 2: Pedestrian-controlled lawnmowers*~~
~~ISO 5395-2:2013/AMD1:2016/AMD2:2017~~

ISO 5395-2:2013, *Garden equipment – Safety requirements for combustion-engine-powered lawnmowers – Part 2: Pedestrian-controlled lawnmowers*
ISO 5395-2:2013/Amd 1:2016
ISO 5395-2:2013/Amd 2:2017

ISO 9773:2024, *Plastics – Determination of burning behaviour of thin flexible vertical specimens in contact with a small flame ignition source*

[1] Under preparation. Stage at the time of publication: IEC/FDIS 62841-4-11:2025.

ISO 11684:2023, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Safety labels – General principles*

ISO 13857:2019, *Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs*

~~ANSI B71.1:2017, *Consumer turf care equipment – Pedestrian-controlled mowers and ride-on mowers – Safety specifications*~~

EN 12096, *Mechanical Vibration – Declaration and Verification of Vibration Emission Values*

*Replacement:*

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane*

ISO 11201:2010, *Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

# CONTENTS

FOREWORD ..... 4
1 Scope ..... 7
2 Normative references ..... 8
3 Terms and definitions ..... 9
4 General requirements ..... 11
5 General conditions for the tests ..... 11
6 Radiation, toxicity and similar hazards ..... 12
7 Classification ..... 12
8 Marking and instructions ..... 12
9 Protection against access to live parts ..... 20
10 Starting ..... 20
11 Input and current ..... 20
12 Heating ..... 20
13 Resistance to heat and fire ..... 21
14 Moisture resistance ..... 21
15 Resistance to rusting ..... 22
16 Overload protection of transformers and associated circuits ..... 23
17 Endurance ..... 23
18 Abnormal operation ..... 23
19 Mechanical hazards ..... 25
20 Mechanical strength ..... 45
21 Construction ..... 47
22 Internal wiring ..... 53
23 Components ..... 53
24 Supply connection and external flexible cords ..... 55
25 Terminals for external conductors ..... 57
26 Provision for earthing ..... 57
27 Screws and connections ..... 57
28 Creepage distances, clearances and distances through insulation ..... 57
Annexes ..... 62
Annex I (informative) Measurement of noise and vibration emissions ..... 62
Annex K (normative) Battery tools and battery packs ..... 72
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources ..... 94
Annex AA (normative) Safety signs ..... 101
Annex BB (normative) Test enclosure ..... 107
Annex CC (normative) Rotary lawnmower foot protection test ..... 116
Annex DD (normative) Lawnmower cutting means stopping time test ..... 125
Annex EE (informative) Example of a material and construction for fulfilling the requirements for an artificial surface ..... 127
Bibliography ..... 129

Figure 101 – Operator control zones ..... 29
Figure 102 – Handle distance and rear cutting means enclosure for rotary lawnmowers ..... 32
Figure 103 – Example of design for rotary lawnmower front opening ..... 33
Figure 104 – Examples of front opening allowance for rotary lawnmowers ..... 35
Figure 105 – Obstruction test ..... 41
Figure 106 – Guarding of cylinder lawnmower cutting means, general ..... 43
Figure 107 – Guarding of cylinder lawnmower cutting means, side coverage ..... 43
Figure 108 – Guarding of cylinder lawnmower cutting means, free and rear discharge ..... 44
Figure 109 – Guarding of cylinder lawnmower cutting means, front discharge ..... 44
Figure 110 – Cylinder lawnmower throw line and handle distance ..... 45
Figure 111 – Impact test fixture for handle insulation ..... 49
Figure 112 – Lawnmower cutting means measurement ..... 53
Figure 113 – Test assembly for accessibility of attachment plug blades ..... 56
Figure I.101 – Microphone positions on the hemisphere (see Table I.101) ..... 63
Figure I.102 – Examples of positions of transducers for lawnmowers ..... 69
Figure K.301 – Examples of separable battery pack connection points and direction of applied force ..... 88
Figure AA.1 – Safety signs illustrating – "WARNING – Beware of thrown objects – keep bystanders away" ..... 101
Figure AA.2 – Safety signs illustrating – "WARNING – Remove plug from mains before maintenance or if cord is damaged" ..... 102
Figure AA.3 – Safety sign illustrating – "WARNING – Keep the supply cord away from the blades” ..... 102
Figure AA.4 – Safety signs illustrating – "WARNING – Keep hands and feet away from the blades" ..... 103
Figure AA.5 – Safety signs illustrating – "WARNING – Disconnect battery before maintenance" ..... 104
Figure AA.6 – Safety signs illustrating – "WARNING – Remove the disabling device before maintenance" ..... 105
Figure AA.7 – Safety signs illustrating – "WARNING – Activate the disabling device before maintenance" ..... 106
Figure AA.8 – Safety sign illustrating – "DANGER – Keep hands and feet away" ..... 106
Figure BB.1 – Test enclosure, construction detail ..... 107
Figure BB.2 – Base detail ..... 108
Figure BB.3 – Example of base, nail plan ..... 108
Figure BB.4 – Test enclosure, general view ..... 110
Figure BB.5 – Test enclosure, single spindle rotary lawnmower ..... 111
Figure BB.6 – Test enclosure, multiple spindle rotary lawnmower ..... 112
Figure BB.7 – Fixture for fibreboard penetration test ..... 114
Figure CC.1 – Foot probe ..... 117
Figure CC.2 – Areas to be probed for rotary lawnmowers ..... 119
Figure CC.3 – Area to be probed for rotary lawnmowers with movable offset handles ..... 120
Figure CC.4 – Area to be probed for air-cushion lawnmowers with single cutting means ..... 121
Figure CC.5 – Area to be probed for air-cushion lawnmowers with multiple cutting means ..... 122
Figure CC.6 – Area to be probed for rotary lawnmowers with single cutting means ..... 123

Figure CC.7 – Area to be probed for rotary lawnmowers with multiple cutting means ..... 124
Figure EE.1 – Sketch of the measurement surface covered with an artificial surface ..... 128

Table 4 – Required performance levels ..... 25
Table 101 – Cutting means stopping time ..... 38
Table 102 – Permissible hits from thrown object test ..... 40
Table 9 – Pull and torque value ..... 57
Table 12 – Minimum creepage distances and clearances ..... 59
Table I.101 – Co-ordinates of microphone positions ..... 65
Table I.102 – Values of the constant *a* ..... 65
Table I.103 – Absorption coefficients ..... 66
Table 4 – Required performance levels ..... 82
Table 301 – Pull and torque value ..... 90
Table K.1 – Minimum creepage distances and clearances between parts of different potential ..... 92
Table K.2 – Minimum total sum of creepage distances and clearances to accessible surfaces ..... 93

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– notes: in small roman type.

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Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this Part 4-3 are numbered starting from 301.

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

## 1 Scope

This clause of Part 1 is applicable, except as follows:

*Addition:*

This document applies to the design of pedestrian controlled walk-behind

– **cylinder lawnmowers**;

and

– **rotary lawnmowers**

equipped with

– metallic **cutting means**; and/or
– rigid non-metallic **cutting means**; and/or
– non-metallic **cutting means** with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of greater than 10 J.

NOTE 101 Machines that have non-metallic **cutting means** and a kinetic energy for each single cutting element of less than or equal to 10 J are considered to be lawn trimmers.

This document does not apply to

– robotic lawnmowers;
– remote-controlled lawnmowers;
– flail mowers or flail-type attachments;
– scissors type lawnmowers;
– grassland mowers;
– sickle bar mowers;
– towed/semi-mounted grass-cutting machines;
– scrub-clearing machines;
– lawn trimmers and lawn edge trimmers;
– lawn edgers;
– grass trimmers;
– brush cutters;
– brush saws;
– agricultural mowers;
– trailing seat/sulky units;
– ride-on machines, including those that can be operated in pedestrian controlled mode;
– non-powered lawnmowers;
– combustion engine powered lawnmowers;
– hybrid and fuel cell powered machines and associated charging systems; and
– garden tractors or their attachments.

NOTE 102 Robotic lawnmowers are covered by IEC 60335-2-107, and will be covered by a future part of IEC 62841.

NOTE 103 Lawn trimmers, lawn edge trimmers, grass trimmers, brush cutters and brush saws are covered by IEC 62841-4-4.

NOTE 104 Lawn edgers are covered by IEC 62841-4-11[1].

NOTE 105 Battery powered ride-on lawnmowers will be covered by a future part of IEC 62841.

NOTE 106 In Europe (EN IEC 62841-4-3), the following requirements apply:

This document covers all significant hazards, hazardous situations or hazardous events relevant for machines covered by this document.

NOTE Z101 Essential requirements not mentioned in Table ZZ.1 are deemed to be not applicable, because the corresponding hazards are either not relevant for machines covered by this document or do not require specific action by the designer.

## 2 Normative references

This clause of Part 1 is applicable, except as follows:

*Addition:*

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

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[1] Under preparation. Stage at the time of publication: IEC/FDIS 62841-4-11:2025.

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