IEC 62841-4-2

Edition 1.2 2026-11

INTERNATIONAL STANDARD

CONSOLIDATED VERSION

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety -
Part 4-2: Particular requirements for hedge trimmers

ICS 25.140.20

ISBN 978-2-8327-1628-1

IEC 62841-4-2:2017-12+AMD1:2022-05+AMD2:2026-11 CSV (en)

CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 7
2 Normative references 7
3 Terms and definitions 8
4 General requirements 9
5 General conditions for the tests 9
6 Radiation, toxicity and similar hazards 10
7 Classification 10
8 Marking and instructions 10
9 Protection against access to live parts 14
10 Starting 14
11 Input and current 14
12 Heating 14
13 Resistance to heat and fire 15
14 Moisture resistance 15
15 Resistance to rusting 16
16 Overload protection of transformers and associated circuits 16
17 Endurance 16
18 Abnormal operation 16
19 Mechanical hazards 17
20 Mechanical strength 33
21 Construction 36
22 Internal wiring 40
23 Components 40
24 Supply connection and external flexible cords 42
25 Terminals for external conductors 43
26 Provision for earthing 43
27 Screws and connections 43
28 Creepage distances, clearances and distances through insulation 44
Annexes 73
Annex I (informative) Measurement of noise and vibration emissions 74
Annex K (normative) Battery tools and battery packs 83
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources 98
Annex AA (normative) Safety signs for safety instructions and warnings 105
Annex BB (informative) Example of a material and construction for fulfilling the requirements for an artificial surface 111
Bibliography 114

Figure 101 – Pictorial representation of some definitions 48
Figure 102 – Pictorial representation of some definitions 48

Figure 103 – Measurement of cutting length 49
Figure 104 – Handles positioning 51
Figure 105 – Measurement of handle gripping length 53
Figure 106 – Adjustable front handle limits for side to side handle rotation 53
Figure 107 – Adjustable rear handle limits for side to side handle rotation 54
~~Figure 108 – Measurement of reach distance~~ .....
Figure 108 – Measurement of distances for hand protection 56
~~Figure 110 – Front hand barrier width for category 3a with adjustable cutting device~~ .....
~~Figure 111 – Examples of compliant/non-compliant handle distances and handle attachments for category 1~~ .....
~~Figure 112 – Measurement of distance from the cutter blade to handles and grasping surfaces~~ .....
Figure 113 – Measurement method for minimum length of blunt extensions along the axis of the cutting device 60
Figure 114 – Cutting device configuration examples for ~~categories 1 and 2 (see Table 101 and Table 102)~~ 19.103.2.2 61
~~Figure 115 – Cutting device configuration example for categories 3a and 3b (see Table 101 and Table 102)~~ .....
Figure 116 – Cutting device configuration example for ~~category 4 (see Table 101 and Table 102)~~ 19.103.2.4 62
Figure 117 – Adjustable cutting device side to side limits 63
Figure 118 – Lower barrier 63
Figure 119 – Measurement of the force necessary to maintain an extended-reach hedge trimmer in a horizontal orientation 64
Figure 120 – Hedge trimmer positions for drop test of 20.3.1 66
Figure 121 – Additional drop test of 20.3.1 for extended-reach hedge trimmers 67
Figure 122 – Impact test ~~apparatus~~ fixture for handle insulation 68
Figure 123 – Mounting and application of force for the test of 20.101.3.~~3~~2 69
Figure 124 – Example of an operator presence sensor 69
Figure 125 – Test assembly for accessibility of attachment plug blades 70
Figure 126 – Application of steel rod when rotated around the rear handle 70
Figure 127 – Application of steel rod when applied in the direction perpendicular to the rear handle axis 71
Figure 128 – Holding moment calculation on a hedge trimmer with a distance between blade control and first cutting tooth shorter than 1 000 mm 72
Figure I.101 – Microphone positions on the hemisphere (see Table I.101) 74
Figure I.102 – Positions of transducers for hedge trimmers, except for extended-reach hedge trimmers 80
Figure I.103 – Positions of transducers for extended-reach hedge trimmers 81
Figure AA.1 – Safety sign illustrating – "DANGER – Keep hands away from blade" 105
Figure AA.2 – Alternative safety sign illustrating – "DANGER – Keep hands away from blade" 106
Figure AA.3 – Safety sign illustrating – "Do not expose to rain" 106
Figure AA.4 – Safety sign illustrating – "Remove plug from the mains immediately if the cable is damaged or cut" 107
Figure AA.5 – Safety signs illustrating – "Wear eye protection" 108

Figure AA.6 – Optional safety sign illustrating – "Wear eye and head protection" 108
Figure AA.7 – Safety sign illustrating – "Wear ear protection" 109
Figure AA.8 –Safety sign illustrating – "DANGER – Keep away from electrical power lines" 109
Figure AA.9 – Optional safety signs illustrating – "Wear eye, ear and head protection" 109
Figure AA.10 – Safety signs illustrating – "WARNING – Remove the disabling device before maintenance" 110
Figure AA.11 – Safety sign illustrating – "WARNING – Disconnect battery before maintenance" 110
Figure BB.1 – Sketch of the measurement surface covered with an artificial surface ~~(not to scale)~~ 113

Table 2 – Maximum outside surface temperature rises 15
Table 4 – Required performance levels 17
Table 7 – Switch trigger force 37
~~Table 101 – Hedge trimmer categories (excluding extended-reach hedge trimmers) ....~~
~~Table 102 – Extended-reach hedge trimmer categories ....~~
Table 103 – Test cycle for two-handed blade controls with non-sequential operation 42
Table 104 – Test cycle for two-handed blade controls with sequential operation 42
Table 12 – Minimum creepage distances and clearances 45
Table I.101 – Coordinates of microphone positions 76
Table I.102 – Absorption coefficients 77
Table K.301 – Pull and torque value 94
Table K.1 – Minimum creepage distances and clearances between parts of different potential 95
Table K.2 – Minimum total sum of creepage distances and clearances to accessible surfaces 96

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-2: Particular requirements for hedge trimmers

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 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 62841-4-2 edition 1.2 contains the first edition (2017-12) [documents 116/346/FDIS and 116/352/RVD], its corrigendum (2018-06), its amendment 1 (2022-05) [documents 116/578/FDIS and 116/586/RVD] and its amendment 2 (2026-11) [documents 116/1012/FDIS and 116/1021/RVD].

In this Redline version, a vertical bar appears in the margin wherever the technical content has been modified by amendments 1 and 2. Additions are shown in green text, and deletions are shown in red strikethrough text. A separate Final version with all changes accepted is included in this publication.

International Standard IEC 62841-4-2 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

This Part 4-2 is to be used in conjunction with the first edition of IEC 62841-1:2014 and its amendments.

This Part 4-2 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hedge trimmers.

Where a particular subclause of Part 1 is not mentioned in this Part 4-2, that subclause applies as far as relevant. Where this standard 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, except as described for Annex K and Annex L below, 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 4-2 as well as Annex K and Annex L of Part 1 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 amendments 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.

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent. IEC takes no position concerning the evidence, validity, and scope of this patent right.

The holder of this patent right has assured IEC that s/he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from the patent database available at patents.iec.ch.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those in the patent database. IEC shall not be held responsible for identifying any or all such patent rights.

1 Scope

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

Addition:

This standard applies to hand-held **hedge trimmers** which are designed for use by one operator for trimming hedges and bushes, including **extended-reach hedge trimmers** with a maximum length of 3,5 m.

NOTE 101 The measurement of the length for **extended-reach hedge trimmers** is specified in 21.101.

This standard is not applicable to **hedge trimmers** with a rotating blade.

This standard is not applicable to scissors type grass shears.

NOTE 102 Scissors type grass shears are covered by ~~IEC 60335-2-94~~ IEC 62841-4-5.

2 Normative references

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

Addition:

IEC 60112:2025, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60664-3:2016, *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 61672-1, *Electroacoustics – Sound level meters – Part 1: Specifications*

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

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

ISO 11684:2023, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment - Safety ~~signs and hazard pictorials~~ labels - General principles*

ISO 22868:2011, *Forestry and gardening machinery – Noise test code for portable hand-held machines with internal combustion engine – Engineering method (Grade 2 accuracy)*

Replacement:

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*

Bibliography

The bibliography of Part 1 is applicable, except as follows:

Addition:

~~IEC 60335-2-94, *Household and similar electrical appliances – Safety – Part 2-94: Particular requirements for scissors type grass shears*~~

IEC 62841-4-5, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery − Safety − Part 4-5: Particular requirements for grass shears*

ISO TR 11690-3, *Acoustics – Recommended practice for the design of low-noise workplaces containing machinery – Part 3: Sound propagation and noise prediction in workrooms*

ISO 22868:2011[1], *Forestry and gardening machinery − Noise test code for portable hand-held machines with internal combustion engine − Engineering method (Grade 2 accuracy)*

European Directive 2000/14/EC, *Noise – Equipment for use outdoors*

Modification:

Delete IEC 60664-3 from the list.

_____

[1] This document has been replaced by a new edition, but the listed edition applies.