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EUROPEAN STANDARD

EN IEC 62841-4-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

ICS 25.140.20

English Version

Electric motor-operated hand-held tools, transportable tools and
lawn and garden machinery - Safety - Part 4-5: Particular
requirements for grass shears
(IEC 62841-4-5:2021)

Outils électroportatifs à moteur, outils portables et machines
pour jardins et pelouses - Sécurité - Partie 4-5: Exigences
particulières pour les cisailles à gazon
(IEC 62841-4-5:2021)

Elektrische motorbetriebene handgeführte Werkzeuge,
transportable Werkzeuge und Rasen- und
Gartenmaschinen - Sicherheit - Teil 4-5: Besondere
Anforderungen für Grasscheren
(IEC 62841-4-5:2021)

This European Standard was approved by CENELEC on 2021-09-28. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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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

EN IEC 62841-4-5:2021 (E)**European foreword**

The text of document 116/495/FDIS, future edition 1 of IEC 62841-4-5, prepared by IEC/TC 116 "Safety of motor-operated electric tools" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62841-4-5:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-06-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-09-28

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This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZZ, which is an integral part of EN IEC 62841-4-5:2021/A11:2021.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

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The text of the International Standard IEC 62841-4-5:2021 was approved by CENELEC as a European Standard without any modification.



IEC 62841-4-5

Edition 1.0 2021-08

INTERNATIONAL STANDARD

iTeh STANDARD

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

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INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE
TOOLS AND LAWN AND GARDEN MACHINERY –
SAFETY –**

Part 4-5: Particular requirements for grass shears

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.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62841-4-5 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools. It is an International Standard.

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

FDIS	Report on voting
116/495/FDIS	116/502/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/standardsdev/publications.

This Part 4-5 is to be used in conjunction with the first edition of IEC 62841-1:2014.

This Part 4-5 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for grass shears.

Where a particular subclause of Part 1 is not mentioned in this Part 4-5, 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 4-5 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 will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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 <http://patents.iec.ch>.

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ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

Part 4-5: Particular requirements for grass shears

1 Scope

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

Addition:

This document applies to **grass shears** with a maximum **cutting width** of 200 mm designed primarily for cutting grass.

This document does not apply to hedge trimmers.

NOTE 101 Hedge trimmers are covered by IEC 62841-4-2.

2 Normative references

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

Addition:

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

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

ISO 22868:2011¹, *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*

¹ Withdrawn.

3 Terms and definitions

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

3.101

blade tooth

part of the **cutter blade** which is sharpened to perform the shearing action

Note 101 to entry: See Figure 101 and Figure 102.

3.102

cutter blade

part of the **cutting device** having **blade teeth** which cut by shearing action either against other **blade teeth** or against a **shear plate**

Note 101 to entry: See Figure 101 and Figure 102.

3.103

cutting device

part of the assembly of **cutter blade** and **shear plate** or of two **cutter blades** together with any supporting part which performs the cutting action

Note 101 to entry: See Figure 101 and Figure 102.

3.104

cutting width

effective width of cut of the **cutting device** measured from the inside edge of the first **blade tooth** or **shear plate** tooth to the inside edge of the last **blade tooth** or **shear plate** tooth, whichever is the greater

Note 101 to entry: See Figure 101 and Figure 102.

3.105

extension shaft

shaft which enables the operator to cut grass while in a standing position, which is either permanently attached to or removable from the machine

3.106

grass shear

hand-held scissors type grass-cutting machine with either one or two **cutter blades** where either one or both **cutter blade(s)** reciprocate along a straight or curved path

Note 101 to entry: See Figure 103.

Note 102 to entry: These machines are intended to be held in the hand during **normal use**, including machines which will not maintain their operating position unless supported, possibly with an **extension shaft** and/or assisted by wheel(s), skid(s) or similar.

3.107

maximum speed

highest **cutting device** speed attainable under all conditions of **normal use**, including no-load

3.108

operator presence sensor

device to detect the presence of an operator's hand

3.109

projection

part of the **cutter blade** or **shear plate** or a separate component which extends beyond the shearing portion of the **cutting device**

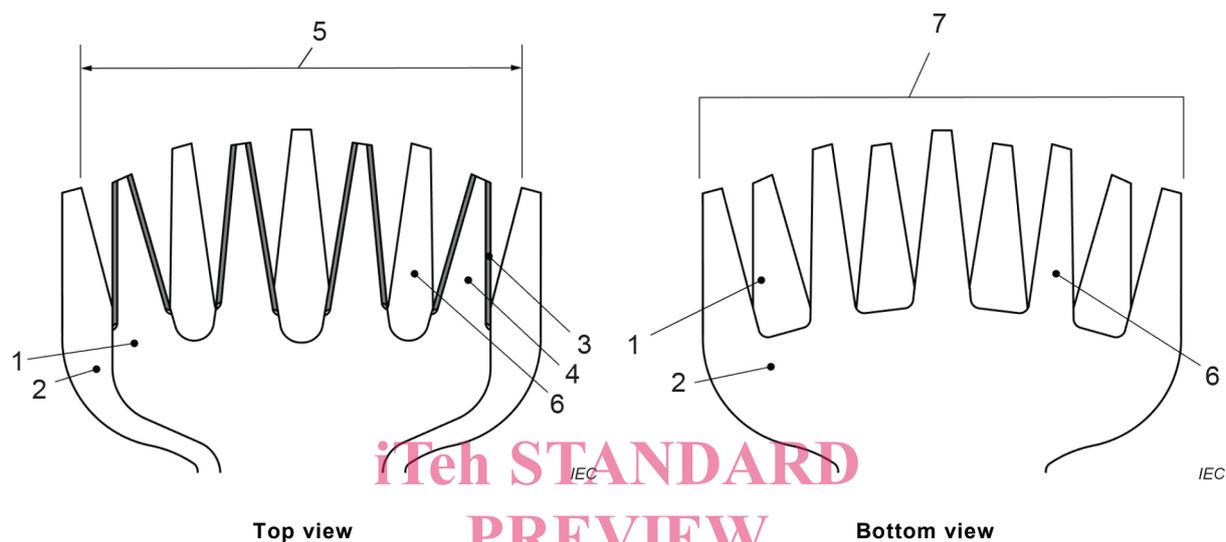
Note 101 to entry: See Figure 110, Figure 111 and Figure 112.

3.110

shear plate

moving or stationary unsharpened part of the **cutting device** which assists cutting by shearing action against a **cutter blade**

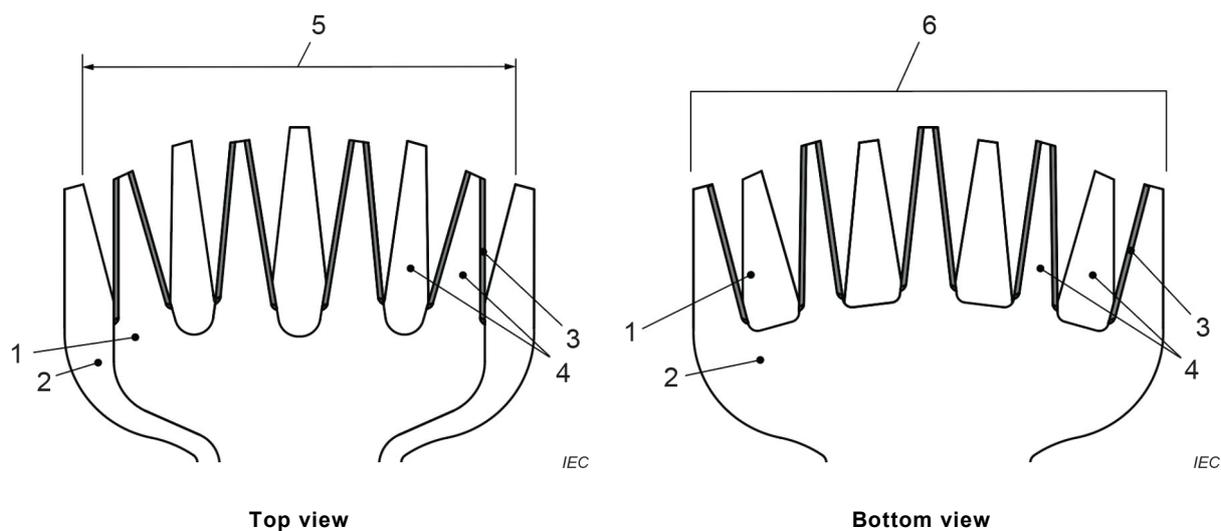
Note 101 to entry: See Figure 101.



Key

- 1 **cutter blade**
- 2 **shear plate with projections**
- 3 sharpened edge of **blade tooth**
- 4 **blade tooth**
- 5 **cutting width**
- 6 portion of **shear plate** which assists cutting by shearing action against a **cutter blade**
- 7 **cutting device**

Figure 101 – Cutting device with one cutter blade and shear plate

**Key**

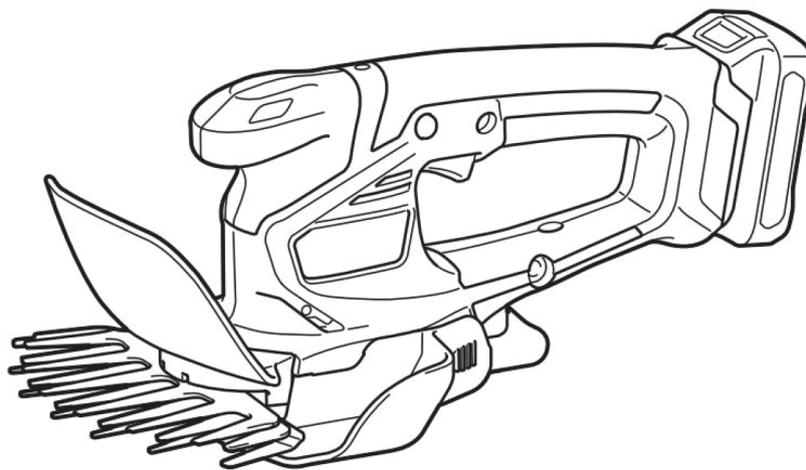
- 1 **cutter blade (top)**
- 2 **cutter blade (bottom) with projections**
- 3 **sharpened edge of blade tooth**
- 4 **blade tooth**
- 5 **cutting width**
- 6 **cutting device**

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Figure 102 – Cutting device with two cutter blades
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IEC

a) Grass shear without extension shaft



IEC

b) Grass shear with extension shaft

Figure 103 – Examples of grass shears

4 General requirements

This clause of Part 1 is applicable.

5 General conditions for the tests

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