

Elektrické ručné náradie, prenosné náradie a strojové zariadenia pre trávnik a záhradu. Bezpečnosť. Časť 2-11: Osobitné požiadavky na píly s priamočiarym vratným pohybom pílového listu.

STN EN 62841-2-11

36 1560

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 2-11: Particular requirements for hand-held reciprocating saws

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/16

Obsahuje: EN 62841-2-11:2016, IEC 62841-2-11:2015

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 62841-2-11

April 2016

ICS 25.140.20; 25.140.30

Supersedes EN 60745-2-11:2010

English Version

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 2-11: Particular requirements for hand-held reciprocating saws (IEC 62841-2-11:2015, modified)

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses - Sécurité - Partie 2-11: Exigences particulières pour les scies alternatives portatives (IEC 62841-2-11:2015, modifiée) Elektrische motorbetriebene handgeführte Werkzeuge, transportable Werkzeuge und Rasen- und Gartenmaschinen - Sicherheit - Teil 2-11: Besondere Anforderungen für handgeführte hin- und hergehende Sägen (IEC 62841-2-11:2015, modifiziert)

This European Standard was approved by CENELEC on 2015-12-23. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 116/246/FDIS, future edition 1 of IEC 62841-2-11, 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 62841-2-11:2016.

A draft amendment, which covers common modifications to IEC 62841-2-11, was prepared by CLC/TC 116 "Safety of motor-operated electric tools" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting (dow) 2019-12-23
 with this document have to be withdrawn

EN 62841-2-11:2016 supersedes EN 60745-2-11:2010.

This European Standard is divided into four parts:

- Part 1: General requirements which are common to most hand-held electric motor operated tools (for the purpose of this standard referred to simply as tools) which could come within the scope of this standard;
- Part 2, 3 or 4: Requirements for particular types of tools which either supplement or modify the requirements given in Part 1 to account for the particular hazards and characteristics of these specific tools.

This Part 2-11 is to be used in conjunction with EN 62841-1:2015.

This Part 2-11 supplements or modifies the corresponding clauses in EN 62841-1:2015, so as to convert it into the European Standard: Particular requirements for hand-held reciprocating saws (jig and sabre saws).

Where a particular subclause of Part 1 is not mentioned in this Part 2-11, 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 smaller 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.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62841-2-11:2015 are prefixed "Z".

This European Standard follows the overall requirements of EN ISO 12100.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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

For the relationship with EU Directive(s), see informative Annex ZZ, which is an integral part of this document.

Compliance with the clauses of Part 1 together with this Part 2-11 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

Endorsement notice

The text of the International Standard IEC 62841-2-11:2015 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

Replace the title of Annex I by the following:

Annex I (normative)

Measurement of noise and vibration emissions

Annex K (normative)

Battery tools and battery packs

Add the following new subclause:

K.21.18.Z101 Isolation device

Reciprocating saws with an **integral battery** shall be equipped with an isolation device to prevent the risk of injury from mechanical hazards during **user maintenance** that:

- ensures a reliable disconnection of at least one pole of the battery from the relevant load(s);
- has a reliable mechanical link between the manual control and the disconnecting element(s);
- is equipped with an unambiguous indication of the state of the disconnection device which corresponds to each position of its manual control (actuator);
- protects against accidental reconnection.

NOTE 1 Examples of methods to achieve this disconnection include removable jumpers, removable **batteries** or an electromechanical **power switch** with a direct mechanical link between the actuator and the contact.

NOTE 2 The risk of accidental reconnection for a **power switch** is addressed by the requirement of 21.18.1.2. The other examples in NOTE 1 achieve this by the necessary actions for reconnection.

Compliance is checked by inspection.

Annex L (normative)

Battery tools and battery packs provided with mains connection or non-isolated sources

Add the following new subclause:

L.21.18.Z101 Isolation device

Reciprocating saws with an **integral battery** shall be equipped with an isolation device to prevent the risk of injury from mechanical hazards during **user maintenance** that:

- ensures a reliable disconnection of at least one pole of the battery from the relevant load(s);
- has a reliable mechanical link between the manual control and the disconnecting element(s);
- is equipped with an unambiguous indication of the state of the disconnection device which corresponds to each position of its manual control (actuator);
- protects against accidental reconnection.

NOTE 1 Examples of methods to achieve this disconnection include removable jumpers, removable **batteries** or an electromechanical **power switch** with a direct mechanical link between the actuator and the contact.

NOTE 2 The risk of accidental reconnection for a **power switch** is addressed by the requirement of 21.18.1.2. The other examples in NOTE 1 achieve this by the necessary actions for reconnection.

Compliance is checked by inspection.

Add the following annexes:

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

This annex from Part 1 is applicable with the following addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
ISO 16893-1	2008	Wood-based panels - Particleboard - Part 1: Classifications	-	-

Annex ZZ

(informative)

Relationship between this European standard and the essential requirements of Directive 2006/42/EC [2006 OJ L157] aimed to be covered

This European standard has been prepared under a Commission's standardisation request M/396 to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZ.1 – Correspondence between this European Standard and Annex I of Directive 2006/42/EC

Essential Requirements of Directive 2006/42/EC	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Annex I	All clauses	All corresponding requirements are covered by complying with all clauses.

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the product(s) falling within the scope of this standard.



IEC 62841-2-11

Edition 1.0 2015-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –

Part 2-11: Particular requirements for hand-held reciprocating saws

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses – Sécurité –

Partie 2-11: Exigences particulières pour les scies alternatives portatives





THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2015 IEC, Geneva, Switzerland

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 from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office Tel.: +41 22 919 02 11 3, rue de Varembé Fax: +41 22 919 03 00

CH-1211 Geneva 20 info@iec.ch Switzerland www.iec.ch

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 corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad

IEC publications search - www.iec.ch/searchpub

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 also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 60 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

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: csc@iec.ch.

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.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

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 aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 60 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

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



IEC 62841-2-11

Edition 1.0 2015-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –

Part 2-11: Particular requirements for hand-held reciprocating saws

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses – Sécurité –

Partie 2-11: Exigences particulières pour les scies alternatives portatives

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 25.140.20, 25.140.30 ISBN 978-2-8322-2998-9

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.

- 2 - IEC 62841-2-11:2015 © IEC 2015

CONTENTS

FOF	REWORD	4
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	General requirements	6
5	General conditions for the tests	7
6	Radiation, toxicity and similar hazards	7
7	Classification	7
8	Marking and instructions	7
9	Protection against access to live parts	7
10	Starting	7
11	Input and current	8
12	Heating	8
13	Resistance to heat and fire	8
14	Moisture resistance	8
15	Resistance to rusting	8
16	Overload protection of transformers and associated circuits	8
17	Endurance	8
18	Abnormal operation	8
19	Mechanical hazards	8
20	Mechanical strength	9
21	Construction	9
22	Internal wiring	9
23	Components	10
24	Supply connection and external flexible cords	10
25	Terminals for external conductors	10
26	Provision for earthing	10
27	Screws and connections	10
28	Creepage distances, clearances and distances through insulation	10
Ann	nexes	13
Ann	nex I (informative) Measurement of noise and vibration emissions	13
Ann	nex K (normative) Battery tools and battery packs	20
Ann	nex L (normative) Battery tools and battery packs provided with mains connection non-isolated sources	
	liography	
וטום	llography	22
Fiai	ure 101 – Test probe	11
-	ure 102 – Typical designs of jig saws	
_	ure 103 – Typical designs of sabre saws	
_	ure I.101 – Test set-up for jig saws	
-	ure I.102 – Test set-up for jig sawsure I.102 – Test set-up for sabre saws	
rigt	are 1.102 - 1651 Set-up 101 Sabre Saws	10

STN EN 62841-2-11: 2016

IEC 62841-2-11:2015 © IEC 2015 - 3 -

Figure I.103 – Positions of transducers for sabre saws	19
Figure I.104 – Positions of transducers for jig saws	19
Table 4 – Required performance levels	8
Table I.101 – Test conditions for sabre and jig saws cutting board	14
Table I.102 – Test conditions for jig saws cutting sheet metal	15
Table I.103 – Test conditions for sabre saws cutting wooden beams	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-11: Particular requirements for hand-held reciprocating saws

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.
- 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) 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.

International Standard IEC 62841-2-11 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

FDIS	Report on voting	
116/246/FDIS	116/256/RVD	

Full information on the voting for the approval of this 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.

IEC 62841-2-11:2015 © IEC 2015

- 5 -

This Part 2-11 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

This Part 2-11 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC standard: Particular requirements for hand-held reciprocating saws.

Where a particular subclause of Part 1 is not mentioned in this Part 2-11, 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 and figures which are additional to those in Part 1 are numbered starting from 101.

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 publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication 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.

- 6 - IEC 62841-2-11:2015 © IEC 2015

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

Part 2-11: Particular requirements for hand-held reciprocating saws

1 Scope

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

Addition:

This part of IEC 62841 applies to reciprocating saws such as jig saws and sabre saws.

2 Normative references

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

Addition:

ISO 16893-1:2008, Wood based panels - Particleboard - Part 1: Classifications

koniec náhľadu – text ďalej pokračuje v platenej verzii STN