



PRE-RELEASE VERSION (FDIS)

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –
Part 3-11: Particular requirements for transportable combined mitre and bench saws**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 25.140.20

Warning! Make sure that you obtained this publication from an authorized distributor.



This is a preview - click here to buy the full publication

116/802/FDIS

FINAL DRAFT INTERNATIONAL STANDARD (FDIS)

PROJECT NUMBER:

IEC 62841-3-11 ED1

DATE OF CIRCULATION:

2024-06-14

CLOSING DATE FOR VOTING:

2024-07-26

SUPERSEDES DOCUMENTS:

116/554/CDV, 116/591B/RVC

IEC TC 116 : SAFETY OF MOTOR-OPERATED ELECTRIC TOOLS

SECRETARIAT:

United States of America

SECRETARY:

Mr Joseph Harding

OF INTEREST TO THE FOLLOWING COMMITTEES:

HORIZONTAL STANDARD:

FUNCTIONS CONCERNED:

EMC

ENVIRONMENT

QUALITY ASSURANCE

SAFETY

SUBMITTED FOR CENELEC PARALLEL VOTING

NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Final Draft International Standard (FDIS) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is a draft distributed for approval. It may not be referred to as an International Standard until published as such.

In addition to their evaluation as being acceptable for industrial, technological, commercial and user purposes, Final Draft International Standards may on occasion have to be considered in the light of their potential to become standards to which reference may be made in national regulations.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to consider for future work to include relevant "In Some Countries" clauses. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE [AC/22/2007](#) OR NEW [GUIDANCE DOC](#)).

TITLE:

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 3-11: Particular requirements for transportable combined mitre and bench saws

PROPOSED STABILITY DATE: 2029

NOTE FROM TC/SC OFFICERS:

Copyright © 2024 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 General requirements	13
5 General conditions for the tests	13
6 Radiation, toxicity and similar hazards	13
7 Classification	14
8 Marking and instructions	14
9 Protection against access to live parts	21
10 Starting	21
11 Input and current	21
12 Heating	22
13 Resistance to heat and fire	22
14 Moisture resistance	22
15 Resistance to rusting	22
16 Overload protection of transformers and associated circuits	22
17 Endurance	22
18 Abnormal operation	22
19 Mechanical hazards	23
20 Mechanical strength	36
21 Construction	37
22 Internal wiring	51
23 Components	51
24 Supply connection and external flexible cables and cords	52
25 Terminals for external conductors	52
26 Provision for earthing	52
27 Screws and connections	52
28 Creepage distances, clearances and distances through insulation	52
Annexes	53
Annex I (informative) Measurement of noise and vibration emissions	53
Annex K (normative) Battery tools and battery packs	54
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources	55
Bibliography	56
Figure 101 – Combined mitre and bench saw (type "A")	8
Figure 102 – Combined mitre and bench saw (type "B")	9
Figure 103 – Saw blade areas – Combined mitre and bench saw in mitre saw position (type "B")	26
Figure 104 – Test probe	27

Figure 105 – Self-closing guard – Opening angle	27
Figure 106 – Open guard construction	28
Figure 107 – Top guard side walls	30
Figure 108 – Riving knife mounted guard	31
Figure 109 – Saw blade guard – Stability test	32
Figure 110 – Guarding below the bench saw table (type "B" saw)	34
Figure 111 – Dimensions of the bench saw table	39
Figure 112 – Width of the slot in the table	40
Figure 113 – Guarding of saw blade relative to mitre saw table position (type "A" saw)	41
Figure 114 – Riving knife adjustment	43
Figure 115 – Riving knife testing – Stability of riving knife	44
Figure 116 – Riving knife testing – Resiliency of riving knife	45
Figure 117 – Two position rip fence	46
Figure 118 – Saw with centre workpiece support in mitre saw mode	48
Figure 119 – Flange characteristics	49
Figure 120 – Distance between fence and saw blade in mitre saw mode	50
Figure 121 – Example of a push stick	51
Table 4 – Required performance levels	22
Table 101 – Metal saw blade guard characteristics	36
Table I.101 – Noise test conditions for combined mitre and bench saws	53

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 3-11: Particular requirements for transportable combined mitre and bench 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.
- 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 62841-3-11 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:

Draft	Report on voting
116/xxx/FDIS	116/xxx/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 is to be used in conjunction with IEC 62841-1:2014.

This document supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for transportable combined mitre and bench saws.

Where a particular subclause of IEC 62841-1 is not mentioned in this document, that subclause applies as far as reasonable. Where this document states "*addition*", "*modification*" or "*replacement*", the relevant text in IEC 62841-1 is to be adapted accordingly.

The following print types are used:

- requirements: in roman type;
- *test specifications*: in italic type;
- terms defined in Clause 3: in **bold** type
- notes: in small roman type.

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1 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 document are numbered starting from 301.

A list of all parts in the IEC 62841 series, published 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.

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.

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.

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.

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

Part 3-11: Particular requirements for transportable combined mitre and bench saws

1 Scope

IEC 62841-1:2014, Clause 1 is applicable, except as follows:

Addition:

This part of IEC 62841 applies to transportable **combined mitre and bench saws** intended to be used with a toothed saw blade for cutting wood and analogous materials, plastics and nonferrous metals except magnesium with a saw blade diameter not exceeding 315 mm, which hereinafter is simply referred to as saw or tool.

This document does not apply to

- saws intended to cut other metals, such as magnesium, steel and iron, or food;
- saws with an automatic feeding device;
- saws designed for use with abrasive wheels;
- saws designed for use with dado blades;
- single function bench or table saws;
- single function mitre saws;
- **combined mitre and bench saws** other than transportable.

NOTE 101 Transportable saws intended to cut ferrous metals will be covered by a future part of IEC 62841-3.

NOTE 102 **Transportable tools** designed for use with abrasive wheels are covered by IEC 62841-3-10:2015.

NOTE 103 Transportable table saws are covered by IEC 62841-3-1:2014.

NOTE 103 Transportable mitre saws are covered by IEC 62841-3-9:2020.

NOTE 104 In Europe (EN IEC 62841-3-11), the following additional NOTE applies:

NOTE Z101 **Combined mitre and bench saws** other than transportable are covered by EN 1870-3:2014.

2 Normative references

IEC 62841-1:2014, Clause 2 is applicable, except as follows:

Addition:

IEC 62841-1:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements*

ISO 180, *Plastics – Determination of Izod impact strength*

NOTE 101 In Europe (EN IEC 62841-3-11), the following additional normative reference applies:

EN 847-1:2017, *Tools for woodworking – Safety requirements – Part 1: Milling tools, circular saw blades*