

This is a preview of "DS/EN 62841-2-17:201...". Click here to purchase the full version from the ANSI store.

Elektrisk motordrevet håndværktøj, transportabelt værktøj og plæne- og havebrugsmaskiner – Sikkerhed – Del 2-17: Særlige krav til håndholdte routere

Electric motor-operated hand-held tools, transportable
tools and lawn and garden machinery – Safety –
Part 2-17: Particular requirements for hand-held routers

DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01

Tel: +45 39 96 61 01

dansk.standard@ds.dk

www.ds.dk

This is a preview of "DS/EN 62841-2-17:201...". Click here to purchase the full version from the ANSI store.

DS projekt: M301264

ICS: 25.140.20

Første del af denne publikations betegnelse er:

DS/EN, hvilket betyder, at det er en europæisk standard, der har status som dansk standard.

Denne publikations overensstemmelse er:

IDT med: IEC 62841-2-17:2017

IDT med: EN 62841-2-17:2017

DS-publikationen er på engelsk.

Denne publikation erstatter: [DS/EN 60745-2-17:2010](#)

DS-publikationstyper

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

Dansk standard

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

DS-information

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

DS-håndbog

- samling af standarder, eventuelt suppleret med informativt materiale

DS-hæfte

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

DS-publikationsform

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldtekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

DS-betegnelse

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

Overensstemmelse med anden publikation:

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

December 2017

ICS 25.140.20

Supersedes EN 60745-2-17:2010

English Version

**Electric motor-operated hand-held tools, transportable tools and
lawn and garden machinery - Safety - Part 2-17: Particular
requirements for hand-held routers
(IEC 62841-2-17:2017 , modified)**

Outils électroportatifs à moteur, outils portables et machines
pour jardins et pelouses - Sécurité - Partie 2-17: Exigences
particulières pour les défonceuses portatives
(IEC 62841-2-17:2017 , modifiée)

Elektrische motorbetriebene handgeführte Werkzeuge,
transportable Werkzeuge und Rasen- und
Gartenmaschinen - Sicherheit - Teil 2-17: Besondere
Anforderungen für handgeführte Oberfräsen
(IEC 62841-2-17:2017 , modifiziert)

This European Standard was approved by CENELEC on 2017-08-28. 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.

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, Serbia, 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: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 116/335/FDIS, future edition 1 of IEC 62841-2-17, 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 62841-2-17:2017.

A draft amendment, which covers common modifications to IEC 62841-2-17 (116/335/FDIS), 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 (dop) 2018-06-15
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting (dow) 2021-12-15
with this document have to be withdrawn

EN 62841-2-17:2017 supersedes EN 60745-2-17:2010.

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 2-17 is to be used in conjunction with EN 62841-1:2015.

This Part 2-17 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 routers.

Where a particular subclause of Part 1 is not mentioned in this Part 2-17, that subclause applies as far as relevant. When 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 62841-2-17:2017 are prefixed "Z".

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

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC 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.

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

Compliance with the clauses of Part 1 together with this Part 2-17 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

This is a preview of "DS/EN 62841-2-17:201...". Click here to purchase the full version from the ANSI store.

Endorsement notice

The text of the International Standard IEC 62841-2-17:2017 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

18 Abnormal operation

Replace the existing subclause 18.8 with the following:

18.8 Replacement of Table 4:

Table 4 – Required performance levels

Type and purpose of SCF	Minimum Performance Level (PL)
Power switch - prevent unwanted switch-on for type 1 routers	b
Power switch - prevent unwanted switch-on for type 2 routers	c
Power switch - provide desired switch-off	b
Any electronic control to pass the test of 18.3	a
Overspeed prevention to prevent output speed above 130 % of rated no-load speed	b
Provide desired direction of rotation	a
Prevent exceeding thermal limits as in Clause 18	a
Prevent self-resetting as required in 23.3 for type 1 routers	a
Prevent self-resetting as required in 23.3 for type 2 routers	b
Prevent unwanted lock-on of the power switch function	b
Lock-off function as required by 21.18.1.2 for type 1 routers	a
Lock-off function as required by 21.18.1.2 for type 2 routers	b
Restart prevention as required by 21.18.1.1	b

21 Construction

Replace the existing Subclause 21.18.1.1 with the following:

21.18.1.1 Addition:

For **routers**, either

- the **power switch** shall be a **momentary power switch** without having a locking arrangement in the "on" position;

or

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

- the tool shall not restart after an interruption of the mains supply without releasing and re-actuating the **power switch**.

Replace the title of Annex I by the following:

Annex I (normative)

Measurement of noise and vibration emissions

and delete the note.

Annex K (normative)

Battery tools and battery packs

Add the following new subclause:

K.21.18.Z101 Isolation and disabling device

Tools with an **integral battery** shall either be equipped

- with an isolation device to prevent the risk of injury from mechanical hazards during servicing or **user maintenance**; or
- with a disabling device that prevents unintentional starting of the tool.

An isolation device shall

- provide disconnection of all poles of the **battery** from the serviceable region of the tool;
- be equipped with an unambiguous indication of the state of the disconnection device which corresponds to each position of its manual control (actuator);
- be provided with protection against accidental reconnection.

NOTE 1 Examples of methods to achieve this disconnection include removable jumpers, **integral batteries** that can be disconnected for servicing or **user maintenance**, 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.

A disabling device may be achieved by any of the following:

- a self-restoring or non-self-restoring lock-off device where two separate and dissimilar actions are necessary before the motor is switched on (e.g. a **power switch** which has to be pushed in before it can be moved laterally to close the contacts to start the motor). It shall not be possible to achieve these two actions with a single grasping motion or a straight-line motion;
- a removable disabling device provided with the tool where it shall not be possible for the tool to be operated when either applied or removed.

Compliance is checked by inspection and by manual test.

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 and disabling device

Tools with an **integral battery** shall either be equipped

- with an isolation device to prevent the risk of injury from mechanical hazards during servicing or **user maintenance**; or
- with a disabling device that prevents unintentional starting of the tool.

An isolation device shall

- provide disconnection of all poles of the **battery** from the serviceable region of the tool;
- be equipped with an unambiguous indication of the state of the disconnection device which corresponds to each position of its manual control (actuator);
- be provided with protection against accidental reconnection.

NOTE 1 Examples of methods to achieve this disconnection include removable jumpers, **integral batteries** that can be disconnected for servicing or **user maintenance**, 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.

A disabling device may be achieved by any of the following:

- a self-restoring or non-self-restoring lock-off device where two separate and dissimilar actions are necessary before the motor is switched on (e.g. a **power switch** which has to be pushed in before it can be moved laterally to close the contacts to start the motor). It shall not be possible to achieve these two actions with a single grasping motion or a straight-line motion;
- a removable disabling device provided with the tool where it shall not be possible for the tool to be operated when either applied or removed.

Compliance is checked by inspection and by manual test.

This is a preview of "DS/EN 62841-2-17:201...". Click here to purchase the full version from the ANSI store.

Add the following annex:

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.

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)



INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – safety –
Part 2-17: Particular requirements for hand-held routers**

**Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses – sécurité –
Partie 2-17: Exigences particulières pour les défonceuses portatives**



This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions.....	6
4 General requirements.....	7
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.....	8
10 Starting.....	8
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.....	9
17 Endurance.....	9
18 Abnormal operation.....	9
19 Mechanical hazards.....	9
20 Mechanical strength.....	11
21 Construction.....	11
22 Internal wiring.....	12
23 Components.....	12
24 Supply connection and external flexible cords.....	12
25 Terminals for external conductors.....	12
26 Provision for earthing.....	12
27 Screws and connections.....	12
28 Creepage distances, clearances and distances through insulation.....	12
Annexes.....	16
Annex I (informative) Measurement of noise and vibration emissions.....	16
Annex K (normative) Battery tools and battery packs.....	19
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources.....	20
Bibliography.....	21
Figure 101 – Measurement of distance between handle and rotary cutting bit.....	13
Figure 102 – Various designs with barrier.....	14
Figure 103 – Design with minimum distance from grasping surface.....	15
Figure I.101 – Positions of transducers for type 2 routers.....	17
Figure I.102 – Positions of transducers for type 1 routers.....	18

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

Table 4 – Required performance levels	9
Table I.101 – Test conditions for type 2 routers	16

This is a preview of "DS/EN 62841-2-17:201...". Click here to purchase the full version from the ANSI store.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-17: Particular requirements for hand-held routers

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) 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 62841-2-17 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
116/335/FDIS	116/342/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 document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-17 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

This is a preview of "DS/EN 62841-2-17:201...". [Click here to purchase the full version from the ANSI store.](#)

This Part 2-17 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC standard: Particular requirements for hand-held routers.

Where a particular subclause of Part 1 is not mentioned in this Part 2-17, 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 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.

The National Committees are requested to note that for this document the stability date is 2019.

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

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 2-17: Particular requirements for hand-held routers

1 Scope

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

Addition:

This part of IEC 62841 applies to hand-held **routers** intended for cutting slots into or shaping the edge of wood and analogous materials, plastics and non-ferrous metals except magnesium.

NOTE 101 **Routers** that are primarily used for trimming the edge of materials are also known as trimmers.

NOTE 102 **Routers** that are used to cut various materials through the rotary action are also known as rotary cutters.

This part of IEC 62841 does not apply to jointers.

NOTE 103 Jointers are covered by IEC 62841-2-19.

This part of IEC 62841 does not apply to small rotary tools.

NOTE 104 Small rotary tools are covered by IEC 62841-2-23.

2 Normative references

This clause of Part 1 is applicable.