



BSI Standards Publication

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

Part 2-1: Particular requirements for hand-held drills and impact drills

National foreword

This British Standard is the UK implementation of EN 62841-2-1:2018+A1:2022. It is derived from IEC 62841-2-1:2017 incorporating amendment A1:2021. It supersedes BS EN 62841-2-1:2018+A12:2022, which is withdrawn.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **C₁** **C₁**.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A11 is indicated by **A₁₁** **A₁₁**.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A₁** **A₁**.

The UK participation in its preparation was entrusted to Technical Committee CPL/116, Safety of motor-operated electric tools.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

Date	Text affected
30 September 2019	Implementation of CENELEC amendment A11:2019
30 November 2022	Implementation of CENELEC amendment A12:2022
30 November 2022	Implementation of IEC amendment 1:2021 with CENELEC endorsement A1:2022

English Version

**Electric motor-operated hand-held tools, transportable tools and
lawn and garden machinery - Safety - Part 2-1: Particular
requirements for hand-held drills and impact drills
(IEC 62841-2-1:2017 , modified)**

Outils électroportatifs à moteur, outils portables et machines
pour jardins et pelouses - Sécurité - Partie 2-1: Exigences
particulières pour les perceuses portatives et les perceuses
à percussion
(IEC 62841-2-1:2017 , modifiée)

Elektrische Motorbetriebene handgeführte Werkzeuge,
transportable Werkzeuge und Rasen- und
Gartenmaschinen - Sicherheit - Teil 2-1: Besondere
Anforderungen für handgeführte Bohrmaschinen und
Schlagbohrmaschinen
(IEC 62841-2-1:2017 , modifiziert)

This European Standard was approved by CENELEC on 2017-05-15. 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.

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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

European foreword

The text of document 116/321/FDIS, future edition 1 of IEC 62841-2-1, 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 62841-2-1:2018.

A draft amendment, which covers common modifications to IEC 62841-2-1 (116/321/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) 2018-07-19
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting (dow) 2022-01-19
with this document have to be withdrawn

This document supersedes EN 60745-2-1:2010.

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

This Part 2-1 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 drills and impact drills.

Where a particular subclause of Part 1 is not mentioned in this Part 2-1, 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 62841-2-1:2017 are prefixed "Z".

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

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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 2-1 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

Warning: Other requirements and other EU Directives can be applicable to the products falling within the scope of this standard.

Endorsement notice

The text of the International Standard IEC 62841-2-1:2017 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A11

This document (EN 62841-2-1:2018/A11:2019) has been prepared by CLC/TC 116 "Safety of motor-operated electric tools".

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 (dop) 2020-05-13
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2023-05-13

This amendment was developed to correct the operating conditions during the noise test for hand-held diamond core drills, since the noise at no-load does not properly represent the noise emission of diamond core drills. Moreover, a detailed Annex ZZ has been provided.

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

In this European Standard the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type.

Foreword to Amendment A12

This document (EN 62841-2-1:2018/A12:2022) has been prepared by CLC/TC 116 "Safety and environmental aspects of motor-operated electric tools".

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 (dop) 2023-06-27
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2026-06-27

This document amends EN 62841-2-1:2018/A1:2022.

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

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.

European foreword to amendment A1

The text of document 116/519/FDIS, future IEC 62841-2-1/AMD1, 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 62841-2-1:2018/A1:2022.

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) 2023-06-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-06-27

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For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZZ, which is an integral part of EN 62841-2-1:2018/A12:2022.

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.

Endorsement notice

The text of the International Standard IEC 62841-2-1:2017/AMD1:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62841-2-2 NOTE Harmonized as EN 62841-2-2

IEC 62841-2-6 NOTE Harmonized as EN IEC 62841-2-6

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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.

Annex ZA of EN 62841-1:2015 is applicable, except as follows:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Addition:</i>				
ISO 185	2005	Grey cast irons - Classification	-	-
ISO 630-2	2011	Structural steels - Part 2: Technical delivery conditions for structural steels for general purposes	-	-

Annex ZA (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 standardization 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

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.1.2 (Principles of safety integration)	4	-
1.1.3 (Materials and products)	5, 6.1, 21.6, K.5, L.5, L.21	-
1.1.5 (Design of machinery to facilitate its handling)	19.4, 19.102, K.19.102, L.19.102	-
1.1.6 (Ergonomics)	5, 19.5, 19.102, 21.18.1, K.5, K.19.102, L.5, L.19.102, L.21	-
1.2.1 (Safety and reliability of control systems)	5, 18.6, 18.8, 23.1.6, 23.1.10, 23.1.11, 23.3, K.5, K.18.6, K.18.8, K.23.1.10, K.23.1.201, L.5, L.18, L.23.1.10	-
1.2.2 (Control devices)	5, 8.5, 8.9, 8.10, 8.11, 21.2, 21.4, 21.17, 21.18, K.5, K.21.17.1.2, L.5, L.21	-
1.2.3 (Starting)	5, 21.17, K.5, K.21.17.1.2, L.5, L.21	-
1.2.4.1 (Normal stop)	5, 21.17, K.5, K.21.17.1.2, L.5, L.21	-
1.2.6 (Failure of the power supply)	5, 21.18.1.Z1, 23.3, K.5, L.5, L.21	-
1.3.2 (Risk of break-up during operation)	5, 8.14.2 c), 13.1, 14.4, 17, 19.6, 20, 21.23, 24.11, 24.12, 24.13, 27, K.5, K.13.1, K.17, K.19.6, K.20, K.24.201, K.27.1, L.5, L.13.1, L.17, L.20, L.21, L.24.201	-
1.3.3 (Risk due to falling or ejected objects)	5, 18.3, 19.101, K.5, L.5, L.18	-
1.3.4 (Risks due to surfaces, edges or angles)	19.2, 21.24, L.21	-

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.3.7 (Risks related to moving parts)	5, 19.1, 19.3, K.5, L.5	-
1.3.8.1 (Moving transmission parts)	5, 19.1, 19.3, K.5, L.5	-
1.3.8.2 (Moving parts involved in the process)	5, 19.1, K.5, L.5	-
1.4.1 (General requirements (for guards and protective devices))	5, 19.1, 20.1, 20.2, 20.3, 20.4, 21.22, K.5, K.20.1, K.20.3, L.5, L.20, L.21	-
1.4.2.1 (Special requirements for fixed guards)	5, 19.1, 19.9, K.5, L.5	-
1.4.2.3 (Special requirements for adjustable guards restricting access)	5, 19.1, K.5, L.5	-
1.5.1 (Risks due to electricity supply)	5, 7, 9, 10, 11, 12, 14, 15, 16, 17, 18.1 to 18.7, 20.5, 21.3, 21.5 to 21.16, 21.19 to 21.22, 21.25 to 21.34, 22, 23.1.1 to 23.1.5, 23.1.7 to 23.1.9, 23.2, 23.4, 23.5, 24, 25, 26, 27, 28, K.5, K.7, K.9, K.10, K.11, K.12, K.14, K.16, K.17, K.18.1 to K.18.7, K.21.5 to K.21.16, K.21.19 to K.21.22, K.21.25 to K.21.34, K.22, K.24, K.24.201, K.25, K.26, K.27.1, K.28.1, K.28.2, L.5, L.7.1, L.9, L.10, L.11, L.12, L.14, L.16, L.17, L.18, L.18.201, L.20, L.21, L.22, L.24, L.25, L.26, L.28.1, Annex C	-
1.5.4 (Risks due to errors of fitting)	5, 8.7, 8.8, 8.13, 8.14.2, 21.7, 21.8, 21.19, 27.1, K.5, K.8.7, K.8.8, K.19.201, K.21.201, K.21.203, K.27.1, L.5, L.19.201, L.21	-
1.5.5 (Risks due to extreme temperatures)	5, 12.5, K.12.1, K.5, L.5	-
1.5.6 (Risks due to fire)	5, 13, 18.1, 18.2, 18.4, 18.6, 28.1, K.5, K.12.201, K.13, K.18.1, K.18.6, K.18.201, K.18.202, K.18.203, K.20.1, K.20.3, K.21.201, K.21.203, K.23.201, K.23.202, K/L.28.1, L.5, L.12.201, L.13, L.18, L.18.204, L.20.201, L.20.202, L.21.201, L.21.203, L.23.201, L.23.202, L.28.201	-
1.5.7 (Risks due to explosion)	5, K.5, K.12.201, K.18.201, K.18.202, K.18.203, K.19.202, K.20.1, K.20.3, K.21.202, K.21.203, L.5, L.12.201, L.18.202, L.18.203, L.18.204, L.19.202, L.20.201, L.20.202, L.21.202, L.21.203	-
1.5.8 (Noise reduction)	21.Z1	-
1.5.9 (Vibration reduction)	21.Z2	-

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.5.10 (Risks due to radiation)	5, 6.1, 6.3, K.5, L.5	-
1.5.11 (Risks due to external radiation)	5, 18.8, K.5, K.18.8, L.5, L.18.8	-
1.5.12 (Risks due to laser radiation)	6.2	-
1.6.1 (Machinery maintenance)	24.1	-
1.6.3 (Isolation of energy sources)	24.1	-
1.7.1 (Information and warnings on machinery)	8.1, 8.4, 8.6, K.8.1, K.8.4, L.8.1, L.8.4	-
1.7.2 (Warning of residual risks)	8.2, 8.4, K.8.4, L.8.4	-
1.7.3 (Marking of machinery)	8.3, 8.4, 8.12, K.8.3, K.8.4, L.8.3, L.8.4	-
1.7.4 (Instructions)	8.14	-
1.7.4.1 (General principle for drafting of instructions)	8.14	
1.7.4.2 (Contents of the instructions)	8.14.1, 8.14.2, 8.14.3, K.8.14.1.1, K.8.14.1.101, K.8.14.2, L.8.14.1.1, L.8.14.2	
1.7.4.3 (Sales literature)	-	Not covered
2.2.1 (General requirements for portable hand-held and/or hand-guided machinery)	5, 19.4, 19.5, 21.18.1, K.5, L.5, L.21	-
2.2.1.1 (Instructions for portable hand-held and/or hand-guided machinery)	5, 8.14.2 Za) 3), I.3.6.2, K.5, L.5	-

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –**Part 2-1: Particular requirements for hand-held drills and impact drills**

FOREWORD

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International Standard IEC 62841-2-1 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools.

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

FDIS	Report on voting
116/321/FDIS	116/330/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 2-1 is to be used in conjunction with the first edition of IEC 62841-1 (2014).