BS EN IEC 62841-2-22:2025+A11:2025

BSI Standards Publication

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

Part 2-22: Particular requirements for hand-held cut-off machines

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Full document details: BS EN IEC 62841-2-22:2025+A11:2025

National foreword

This British Standard is the UK implementation of EN IEC 62841-2-22:2025+A11:2025. It is derived from IEC 62841-2-22:2025. It supersedes BS EN 60745-2-22:2011+A11:2013, which will be withdrawn on 31 December 2029.

The start and finish of text introduced or altered by amendment A11 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 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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For the Great Britain market (England, Scotland and Wales), if UK Government has designated this publication for conformity with UKCA marking (or similar) legislation, it may contain an additional National Annex. Where such a National Annex exists, it shows the correlation between this publication and the relevant UK legislation. If there is no National Annex of this kind, the relevant Annex ZA or ZZ in the body of the European text will indicate the relationship to UK regulation applicable in Great Britain. References to EU legislation may need to be read in accordance with the UK designation and the applicable UK law. Further information on designated standards can be found at www.bsigroup.com/standardsandregulation.

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Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2025.

Amendments/corrigenda issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN IEC 62841-2-22:2025+A11

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English Version

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 2-22: Particular requirements for hand-held cut-off machines (IEC 62841-2-22:2025)

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses - Sécurité - Partie 2-22: Exigences particulières pour les tronçonneuses portatives (IEC 62841-2-22:2025)

Elektrische motorbetriebene handgeführte Werkzeuge, transportable Werkzeuge und Rasen- und Gartenmaschinen - Sicherheit - Teil 2-22: Besondere Anforderungen für handgeführte Trennschleifmaschinen (IEC 62841-2-22:2025)

This European Standard was approved by CENELEC on 2025-11-10. 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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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 116/870/FDIS, future edition 1 of IEC 62841-2-22, prepared by TC 116 "Safety of motor-operated electric tools" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62841-2-22:2025.

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)	2026-12-31
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2029-12-31

This document supersedes EN 60745-2-22:2011 and all of its amendments and corrigenda (if any).

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 is read in conjunction with EN IEC 62841-2-22:2025/A11:2025 and EN 62841-1:2015 and all of its amendments and corrigenda (if any).

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZZ, which is an integral part of EN IEC 62841-2-22:2025/A11:2025.

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 62841-2-22:2025 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 standard indicated:

IEC 62841-2-3	NOTE	Approved as EN IEC 62841-2-3
IEC 62841-2-5	NOTE	Approved as EN 62841-2-5
IEC 62841-2-23	NOTE	Approved as EN IEC 62841-2-23 [1]

[1] Under preparation. Stage at the time of publication: FprEN IEC 62841-2-23:2024.

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European foreword to Amendment A11

This document (EN IEC 62841-2-22:2025/A11:2025) 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)	2026-12-31
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2029-12-31

This document modifies by common modifications EN IEC 62841-2-22:2025, which consists of the text of 116/870/FDIS (future IEC 62841-2-22, Ed. 1) prepared by IEC/TC 116 “Safety of motor-operated electric tools”.

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 series 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 document referred to simply as tools) which could come within the scope of this document;

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.

Part 2-22 is used in conjunction with EN 62841-1:2015 and all of its amendments and corrigenda (if any).

Part 2-22 supplements or modifies the corresponding clauses in EN 62841-1:2015 and its amendments, so as to convert it into the European Standard: Particular requirements for hand-held cut-off machines.

Where a particular subclause of Part 1 is not mentioned in the Part 2-22, that subclause applies as far as relevant. When this document 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 62841-2-22:2025 are prefixed “Z”.

This document follows the overall requirements of EN ISO 12100.

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This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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

Compliance with the clauses of Part 1 together with Part 2-22 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

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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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.cencenelec.eu.

Annex ZA of EN 62841-1:2015 as impacted by EN 62841-1:2015/A11:2022 is applicable, except as follows:

Publication	Year	Title	EN/HD	Year
Addition:				
		Concrete paving flags - Requirements and test methods	EN 1339	2003
			+AC	2006
IEC 61008-1	2010	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules	EN 61008-1	2012
+ A1	2012		+A1	2014
			+ A1:2014/AC	2016-06
			+ AC	2016
+ A2	2013		+A2	2014
			+A11	2015
			+ A12	2017
IEC 62841-1	2014	Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements	EN 62841-1	2015
			+ AC	2015
			+ A11	2022
			+ A1	2025
ISO 19432-1	2020	Building construction machinery and equipment – Portable, hand-held, internal combustion engine-driven abrasive cutting machines – Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels	EN ISO 19432-1	2020

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Annex ZZ
(informative)

Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered

This European Standard has been prepared under a Commission's standardization request "M/396 Mandate to CEN and CENELEC for Standardisation in the field of machinery" 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 (recast)

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) / subclause(s) of this EN	Remarks / Notes
1.1.2 c)	8.14.1.101	-
1.1.2 e)	21.35	
1.1.5 (Design of machinery to facilitate its handling)	19.4	-
1.1.6 (Ergonomics)	21.18.1, 21.18.1.1, K.21.18.1.1	-
1.2.1 (Safety and reliability of control systems)	18.8.1, 23.3	-
1.2.2 (Control devices)	21.18.1.2	-
1.2.6 (Failure of the power supply)	23.3, 21.18.1.1, K.21.18.1.1	-
1.3.2 (Risk of break-up during operation)	19.6, 19.105	-
1.3.3 (Risk due to falling or ejected objects)	19.102, 19.103, 19.104, 20.101.1, 21.35, 20.102	-
1.3.7 (Risks related to moving parts)	19.1, 19.3	-
1.3.8.1 (Moving transmission parts)	19.1	-
1.3.8.2 (Moving parts involved in the process)	19.101	-
1.4.1 (General requirements (for guards and protective devices))	19.1, 19.101, 20.101.1	-

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The relevant Essential Requirements of Directive 2006/42/EC	Clause(s) / subclause(s) of this EN	Remarks / Notes
1.5.1 (Risks due to electricity supply)	14.3 to 14.5, 21.18.1, 24.4, 24.5, 28.1	-
1.5.4 (errors of fitting)	19.101	
1.5.13 (Risks due to emissions of hazardous materials and substances)	21.35	-
1.6.1 (Machinery maintenance)	K.21.18.Z301, L.21.18.Z301	-
1.6.3 (Isolation of energy sources)	K.21.18.Z301, L.21.18.Z301	-
1.7.1 (Information and warnings on machinery)	8.1, 8.2	-
1.7.2 (Warning of residual risks)	8.2	-
1.7.3 (Marking of machinery)	8.3	-
1.7.4.2 (Contents of the instructions)	8.14.1.1, 8.14.1.101, 8.14.2	-
2.2.1 (General requirements for portable hand-held and/or hand-guided machinery)	19.4, 19.106, 21.18.1.1, K.21.18.1.1	-

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.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-22: Particular requirements for hand-held cut-off machines

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) 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 62841-2-22 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
116/870/FDIS	116/887/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.

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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/publications.

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 hand-held cut-off machines.

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.

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.

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

Part 2-22: Particular requirements for hand-held cut-off machines

1 Scope

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

Replacement of the third paragraph:

The **rated voltage** is not more than 250 V for single-phase a.c. or d.c. tools, and 480 V for three-phase a.c. tools.

Addition:

This document applies to hand-held **cut-off machines** fitted with

– one **bonded reinforced wheel** of Type 41 or Type 42; or
– one or more **diamond cutting wheels** with peripheral gaps, if any,
  - having no positive rake angle; and
  - not exceeding 10 mm for **cut-off machines** other than **flush cutters**, **power cutters** and **wall chasers**;

and with

– a **rated no-load speed** not exceeding a peripheral speed of the wheel of 100 m/s at **rated capacity**; and
– a **rated capacity** not exceeding 430 mm.

NOTE 101 An example of a permitted **diamond cutting wheel** construction is shown in Figure 106.

These tools are intended to cut materials such as metals, concrete, masonry, glass and tile.

This document does not apply to:

– **cut-off machines** that can be converted to a grinder, sander or polisher, which are covered by IEC 62841-2-3;
– circular saws which are covered by IEC 62841-2-5; and
– die grinders and small rotary tools which are covered by IEC 62841-2-23;
– tools intended to cut wood, except for **utility cutters**;
– **cut-off machines** fitted with a **bonded reinforced wheel** of Type 42 with a diameter exceeding 230 mm.

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2 Normative references

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

Addition:

IEC 61008-1:2010, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules*[1]
IEC 61008-1:2010/AMD1:2012
IEC 61008-1:2010/AMD2:2013

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

ISO 19432-1:2020, *Building construction machinery and equipment – Portable, hand-held, internal combustion engine-driven abrasive cutting machines – Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels*

3 Terms and definitions

IEC 62841-1:2014, Clause 3 is applicable, except as follows:

Addition:

3.101
blotter
thin piece of an easily compressible material, between the abrasive wheel and **flange**

3.102
bonded reinforced wheel
accessory for cutting-off applications that are bonded by means of material such as resin, rubber, shellac or other similar bonding agents and which are reinforced by webbing, fabric or filament

Note 101 to entry: **Bonded reinforced wheels** are covered in ISO 603-15:2022 and ISO 603-16:2022.

Note 102 to entry: In the United States of America, **bonded reinforced wheels** are covered in ANSI/UAMA B7.1:2017.

3.103
cut-off machine
hand-held tool designed to cut by means of the periphery of a rotating abrasive cut-off wheel (**bonded reinforced wheel** or **diamond cutting wheel**) where the wheel is fixed on a spindle

Note 101 to entry: See Figure 101.

3.104
diamond cutting wheel
metal **accessory** with the abrasives located on the periphery of the wheel

3.105
flange
collar, disc, or plate between or against which wheels are mounted

[1] There exists a consolidated version (Edition 3.2:2013) which includes IEC 61008-1:2010 and its Amendment 1 (2012) and Amendment 2 (2013).

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3.105.1
inner flange
part that contacts and provides support to the back side of the wheel and is located on the spindle between wheel and tool

3.105.2
outer flange
part that supports the front side of the wheel and secures and clamps the wheel to the spindle and the **inner flange**

3.106
flush cutter
cut-off machine that is designed to perform flush cutting operations

Note 101 to entry: See Figure 102.

Note 102 to entry: An example of a flush cutting operation is cutting a groove in a floor that is very close to a wall.

3.107
guide plate
flat plate mounted on the machine which rests on the material to be cut

3.108
guide roller
roller mounted on the machine which rests on the material to be cut

3.109
power cutter
cut-off machine for cutting surfaces or materials with a standing operator and is provided with a front and rear handle that are located behind the rotating abrasive cut-off wheel

Note 101 to entry: See Figure 103.

3.110
rated capacity
maximum intended diameter of the rotating **accessory** to be fitted on the tool as recommended by the manufacturer's instructions

3.111
utility cutter
cut-off machine with a **rated capacity** not exceeding 100 mm

Note 101 to entry: See Figure 104.

3.112
wall chaser
cut-off machine on which one or more **diamond cutting wheels** are mounted and used for non-through cutting operations

Note 101 to entry: See Figure 105.

3.113
wheel guard
device which partly encloses the abrasive wheel and gives protection to the operator

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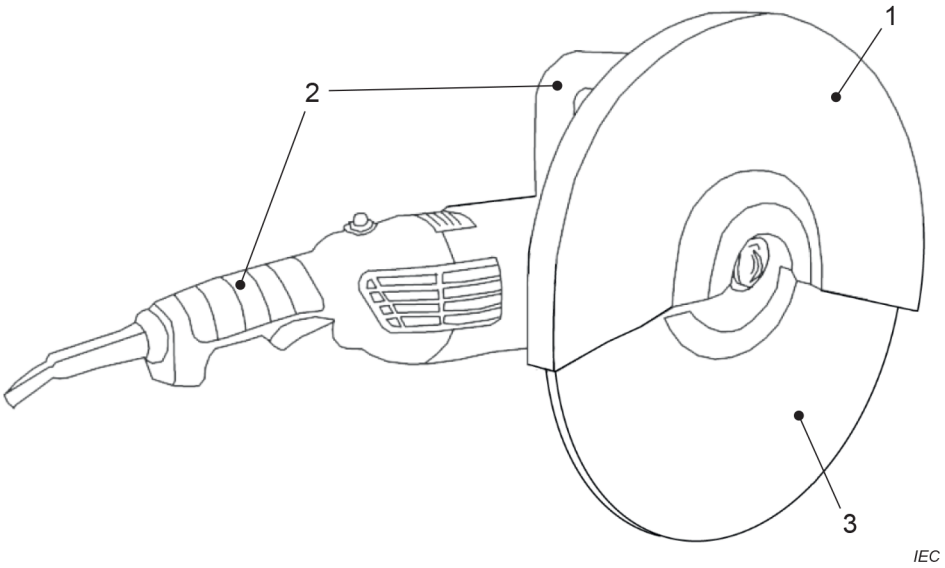
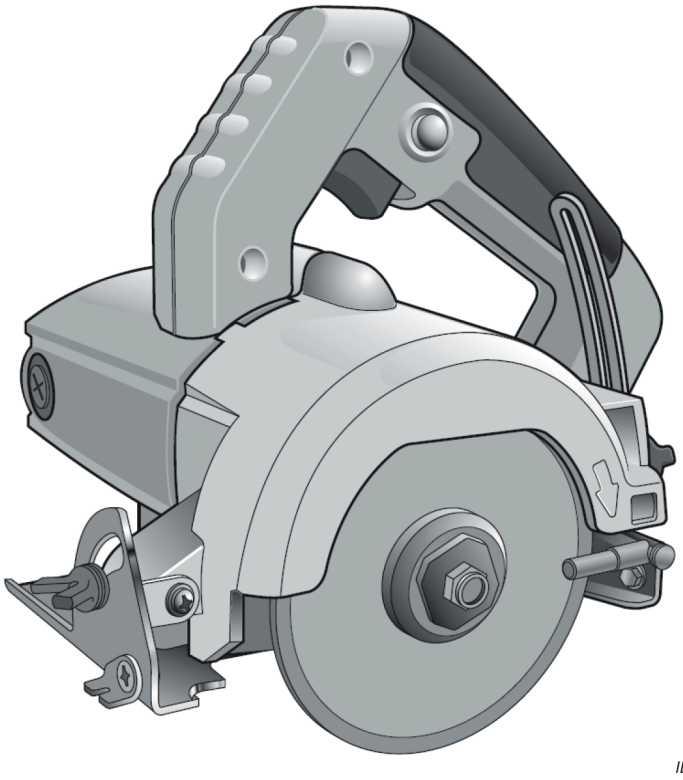


a) Example of a cut-off machine



b) Example of a cut-off machine with guide plate and diamond cutting wheel

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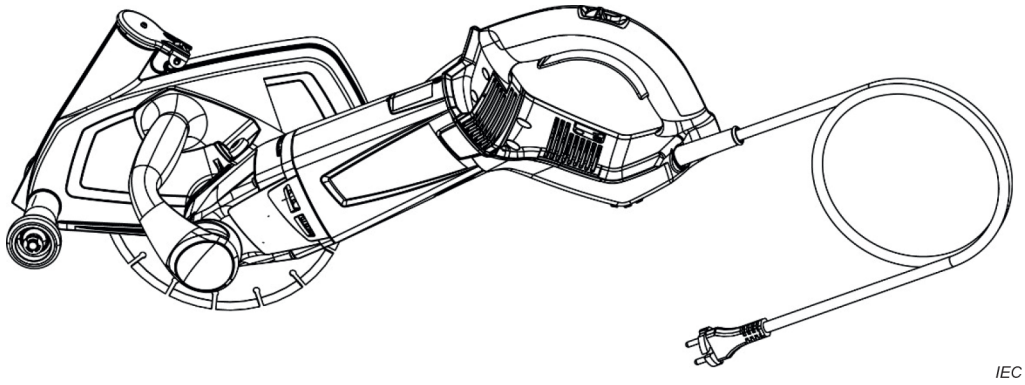

c) Example of a cut-off machine with dust extraction

Key

1 **wheel guard**
2 handle
3 wheel

Figure 101 – Examples of cut-off machines

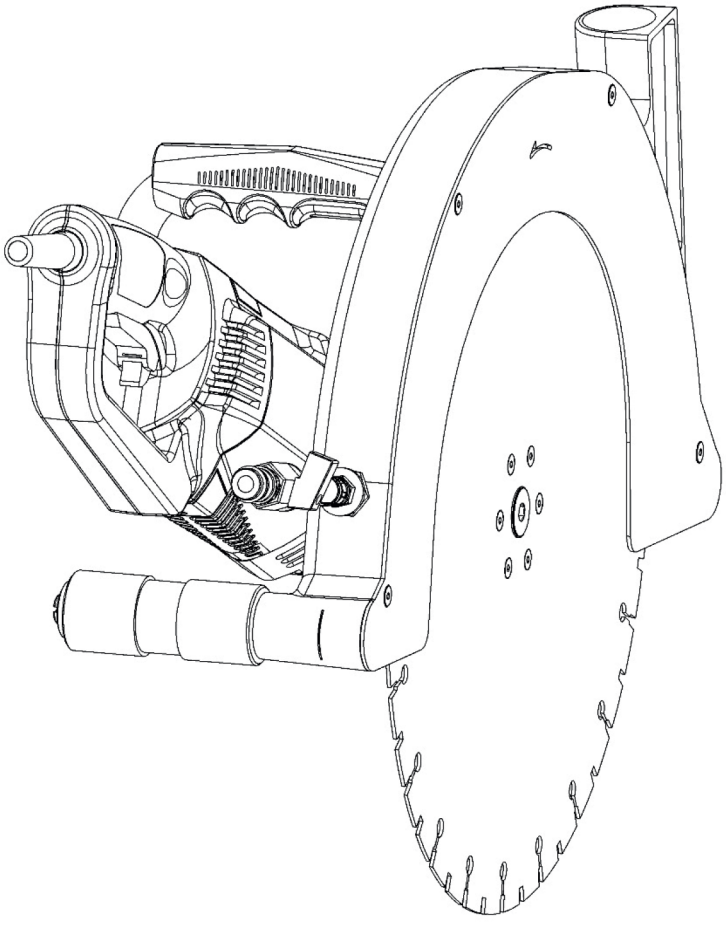

Figure 102 – Example of a flush cutter with diamond cutting wheel

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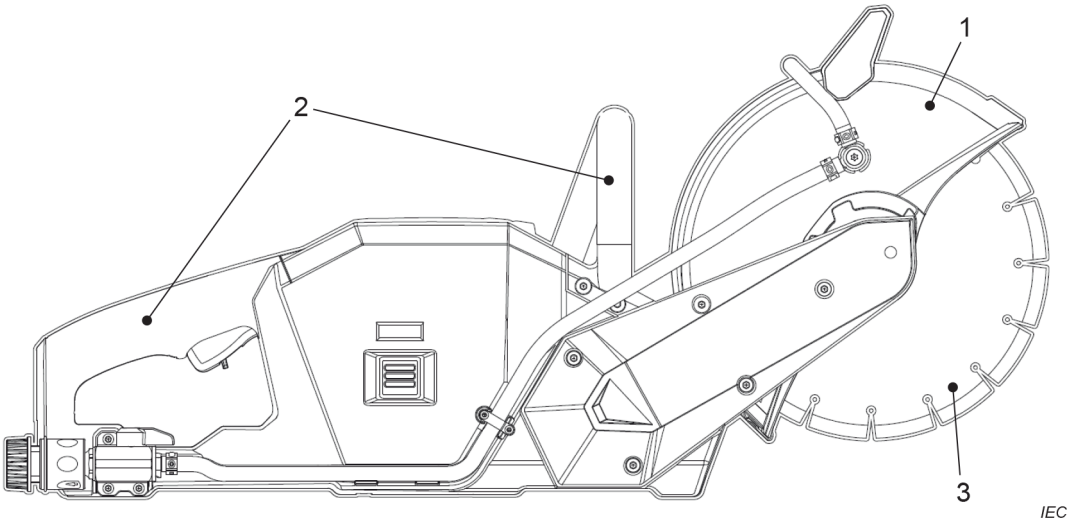
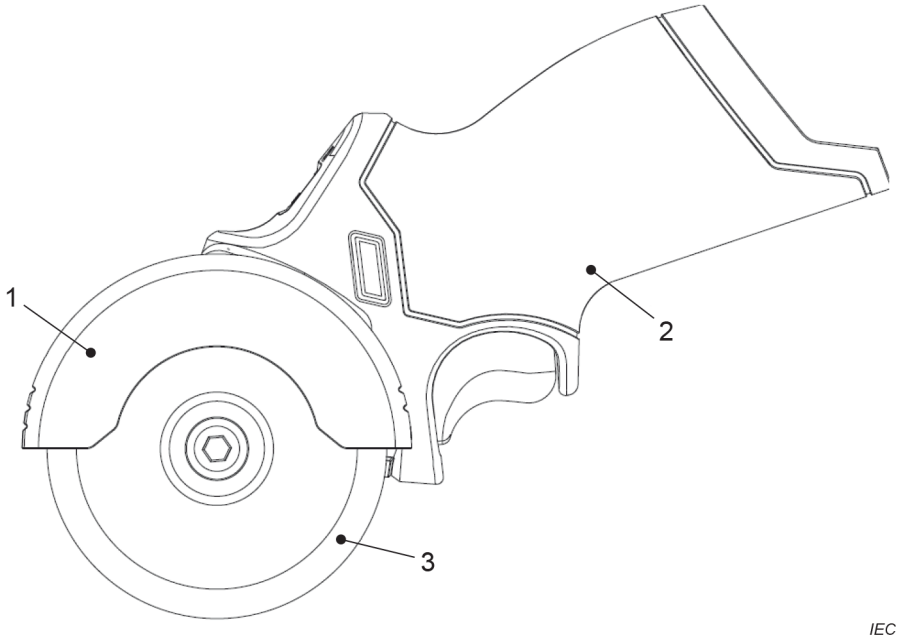


Key

1 **wheel guard**
2 handle
3 wheel

Figure 103 – Example of a power cutter



Key

1 **wheel guard**
2 handle
3 wheel

Figure 104 – Example of a utility cutter

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