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Responsible committee: CPL/116 Safety of motor-operated electric tools

Interested committees:

Title: BS EN 62841-2-16 Ed.1.0 Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety Part 2-16: Particular requirements for hand-held fastener driving tools

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- ii) affects other national standard(s)
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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



116/553/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: IEC 62841-2-16 ED1	
DATE OF CIRCULATION: 2022-01-28	CLOSING DATE FOR VOTING: 2022-04-22
SUPERSEDES DOCUMENTS: 116/531/NP, 116/544/RVN	

IEC TC 116 : SAFETY OF MOTOR-OPERATED ELECTRIC TOOLS	
SECRETARIAT: United States of America	SECRETARY: Mr Joseph Harding
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	
☐ SUBMITTED FOR CENELEC PARALLEL VOTING	☒ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

This document is still under study and subject to change. It should not be used for reference purposes.

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.

TITLE: Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 2-16: Particular requirements for hand-held fastener driving tools
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PROPOSED STABILITY DATE: 2027

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE
TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –****Part 2-16: Particular requirements for hand-held fastener driving tools****FOREWORD**

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IEC 62841-2-16 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:

FDIS	Report on voting
116/XX/FDIS	116/XX/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 the first edition of 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 fastener driving tools.

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;*
- notes: in small roman type.

The terms defined in Clause 3 are printed in **bold typeface**.

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 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.

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,
- 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.

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

Part 2-16: Particular requirements for hand-held fastener driving tools

1 Scope

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

Addition:

This document applies to hand-held **fastener driving tools**

- intended for driving **fasteners** into or through concrete, fabric, fiberboard, metal, plastic, wood, wood products, cartons, and other materials; and
- whose energy to drive the **fastener** is derived directly or indirectly from an electric motor or magnetic drive.

This document does not apply to pneumatically driven tools where the compressed gas comes from an external source, such as a compressor or a tank.

This document does not apply to tools powered by combustible gases, even if electrically ignited.

NOTE 101 Tools powered by compressed air or combustible gases are covered by ISO 11148-13:2017.

2 Normative references

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

Addition:

EN 12549:1999/AMD1:2008, *Acoustics – Noise test code for fastener driving tools – Engineering method*

EN 15895:2011/AMD1:2018, *Cartridge operated hand-held tools – Safety requirements – Fixing and hard marking tools*

IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

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

ISO 630-2:2011, *Structural steels – Part 2: Technical delivery conditions for structural steels for general purposes*

ISO 28927-13:2021, *Hand-held portable power tools – Test methods for evaluation of vibration emission – Part 13: Fastener driving tools*

3 Terms and definitions

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

Addition:

3.101

activate

move or otherwise engage a **trigger** or **workpiece contact** so that it is in a state that allows the **fastener driving tool** to be **actuated** or that satisfies one requirement for the **fastener driving tool** to be **actuated**

3.102

actuate

cause movement of the tool component(s) intended to drive a **fastener**

3.103

actuation mode

sequence by which a fastening operation is performed

3.103.1

contact actuation

actuation mode which allows the tool to operate by **activating** the **workpiece contact** whilst the **trigger** is continually depressed and held

Note 101 to entry: **Contact actuation** is also known as bump mode.

3.103.2

contact actuation with automatic reversion

actuation mode that is capable of **contact actuation** and where the tool cannot **actuate** if the **trigger** is depressed without operation of the **workpiece contact** within the **trigger time-out period**

Note 101 to entry: Additional **actuation** is possible only after the **trigger** is released and re-activated.

3.103.3

dual activation

actuation mode where two devices such as **triggers**, levers or switches that work in conjunction with each other such that two sequential dissimilar actions are required to **actuate** the tool

3.103.4

full sequential actuation

actuation mode which allows single driving operations via the **trigger** after the **workpiece contact** has been **activated** and during which additional **actuation** can occur only when all operating controls are released and re-**activated** in the same sequence

3.103.5

single sequential actuation

actuation mode which allows single driving operations via the **trigger**, after the **workpiece contact** has been **activated**, and during which additional **actuation** can occur only when the **trigger** has been returned to the non-driving position whilst the **workpiece contact** remains in the **activated** position

3.104

actuation system

trigger or **workpiece contact activated** separately or in some combination or sequence to **actuate** the tool

3.105**fastener**

mechanical device used for securing fixings to surfaces or joining materials together, such as nails, staples and pins, for use in **fastener driving tools**

3.106**fastener driving tool**

hand-held tool in which energy is transmitted in a linear motion to a **fastener** for the purpose of driving the **fastener** into defined materials

Note 101 to entry: **Fasteners** are typically driven by mechanical or pneumatic means.

3.107**heavy duty brad nailer**

fastener driving tool capable of driving nails of 1,2 mm to 1,65 mm (18 to 15 AWG) or larger nominal diameter wire

3.108**heavy duty stapler**

fastener driving tool capable of driving staples with a **staple leg width** of 1,6 mm or larger and a nominal **staple leg thickness** of 1,4 mm or larger

3.109**horizontal-down**

tool orientation where the tool nose is normal to a horizontal work surface and pointed downwards

3.110**horizontal-up**

tool orientation where the tool nose is normal to a horizontal work surface and pointed upwards

3.111**light duty tool**

fastener driving tool that is only capable of driving **fasteners** where

- the mass of the **fastener** is less than 0,5 g and the length of the **fastener** does not exceed 26 mm; or
- the mass of the **fastener** is less than 0,4 g and the length of the **fastener** does not exceed 36 mm

Note 101 to entry: **Heavy duty brad nailers**, **heavy duty staplers** and **pinners** are considered not to be **light duty tools**.

3.112**multi-blow tool**

fastener driving tool that drives **fasteners** through multiple impacts on the head of the **fastener** and not through the forcible ejection of the **fastener**

Note 101 to entry: An example of a **multi-blow tool**, also known as a percussion nailer, is a palm nailer.

3.113**pinner**

fastener driving tool capable of driving headless **fasteners** up to 51 mm in length and a maximum diameter of 0,64 mm (23 AWG)

3.114**staple leg thickness**

maximum dimension of staple leg cross-section measured parallel to the staple crown axis

3.115**staple leg width**

maximum dimension of staple leg cross-section measured perpendicular to the staple crown axis

3.116**trigger**

control element **activated** manually by a tool operator

3.117**trigger time-out period**

for tools with **contact actuation with automatic reversion actuation mode**, the duration of time a **trigger** can be depressed without operation of the **workpiece contact** before the tool becomes inoperable

3.118**workpiece contact**

control element or assembly on the **fastener driving tool** intended to be **activated** by the workpiece

Note 101 to entry: This includes retractable **workpiece contacts** that are normally retracted and extend when the **trigger** is **activated**.

3.118.1**protected workpiece contact**

workpiece contact that is recessed such that it cannot be **activated** by pressing against a flat surface

Note 101 to entry: **Protected workpiece contacts** are found on tools that are designed to affix cable, tubing and the like with staples where the **workpiece contact** presses against the material being affixed.

4 General requirements

IEC 62841-1:2014, Clause 4 is applicable.

5 General conditions for the tests

IEC 62841-1:2014, Clause 5 is applicable, except as follows:

5.17 Addition:

*The mass of the tool includes the heaviest **fastener** magazine in accordance with 8.14.2 b) 111), but excludes any **fasteners**.*

5.101 *For tests that are conducted without **fasteners**, the test may be conducted using a test fixture that simulates a **fastener** in order to avoid abnormal stresses that may occur in the tool.*

5.102 *For tools that employ a function that does not permit the tool to **actuate** without **fasteners**, tests that require the tool to **actuate** shall be conducted with **fasteners** or the function shall be disabled. If required, special hardware and/or software may be used in order to disable the function.*

6 Radiation, toxicity and similar hazards

IEC 62841-1:2014, Clause 6 is applicable.

7 Classification

IEC 62841-1:2014, Clause 7 is applicable.