SLOVENSKI STANDARD
oSIST prEN IEC 62841-1:2025

01-maj-2025

Električna motorna ročna orodja, prenosna orodja ter stroji za trato in vrt - Varnost - 1. del: Splošne zahteve

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 1: General requirements

Ta slovenski standard je istoveten z: **prEN IEC 62841-1:2025**

ICS:

25.140.20	Električna orodja	Electric tools
65.060.70	Vrtnarska oprema	Horticultural equipment

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116/875/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62841-1 ED2**	
DATE OF CIRCULATION: **2025-03-21**	CLOSING DATE FOR VOTING: **2025-07-11**
SUPERSEDES DOCUMENTS: **116/874/RR**	

IEC TC 116 : SAFETY OF MOTOR-OPERATED ELECTRIC TOOLS	
SECRETARIAT: United States of America	SECRETARY: Ms Heather Darrah
OF INTEREST TO THE FOLLOWING COMMITTEES:	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED: Safety	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. 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 1: General requirements

PROPOSED STABILITY DATE: 2031

NOTE FROM TC/SC OFFICERS:

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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 1: General requirements

FOREWORD

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

This second edition is scheduled to cancel and replace the first edition published in 2014, of which it constitutes a technical revision. It introduces a new structure with the requirements organized dependent on the power source and includes the following significant technical changes with respect to the first edition of IEC 62841-1:

- the maximum **fully charged battery** input voltage for tools and **battery** packs has been increased from 75 V d.c. to 250 V d.c. in the scope of Annex B;
- restructuring and revision of Clause 18, Clause A.18 and Clause B.18;
- new requirements in Annex B for permitting the use of **battery**-operated tools in the rain, cleaning **battery**-operated tools with low-pressure water and immersion of **battery**-operated tools in water to a depth of up to 1 m for cleaning;
- revised Annex C; and
- new Annexes D, J, M, N, O, P, Q and R.

The text of this document is based on the following documents:

FDIS	Report on voting
116/xxx/FDIS	116/xxx/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 1 is to be used in conjunction with the appropriate parts of IEC 62841-2, IEC 62841-3 or IEC 62841-4 which contain clauses that supplement or modify the corresponding clauses in Part 1 to provide the relevant requirements for each type of product.

Individual countries may wish to consider the application of this Part 1 of IEC 62841, so far as is reasonable, to tools not mentioned in an individual part of IEC 62841-2, IEC 62841-3 or IEC 62841-4 and to tools designed on new principles.

NOTE 1 In this document, the following print types are used:

– requirements: in roman type

– *test specification: in italic type*

– Notes: in smaller roman type

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

NOTE 2 In Annexes A, B. F, G, J and R, subclauses and notes which are additional to those in the main body of the document are numbered starting from 201.

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 publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

– • reconfirmed,

– • withdrawn,

– • replaced by a revised edition, or

– • amended.

The National Committees are requested to note that for this publication the stability date is 2030.

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

NOTE 3 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.

NOTE 4 In Europe (EN IEC 62841-1), the following additional paragraph applies:

When a relevant Part 2, 3, or 4 does not exist, this document can be used to support the risk assessment process in order to establish requirements for the tool.

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

Part 1: General requirements

1 Scope

This International Standard deals with the safety of electric motor-operated and magnetically driven:

- **hand-held tools** (IEC 62841-2);
- **transportable tools** (IEC 62841-3);
- **lawn and garden machinery** (IEC 62841-4).

The above listed categories are hereinafter referred to as “tools” or “machines”.

This document deals with the hazards presented by tools which are encountered in the **normal use** and reasonably foreseeable misuse of the tools.

Tools with supplemental electric heating elements are within the scope of this standard.

Requirements for motor-operated and magnetically driven tools in the main body of this document are supplemented, dependent on the power source as applicable, by the requirements of

- Annex A for mains-operated tools;
- Annex B for rechargeable **battery**-operated tools and the **battery** packs for such tools;
- Annex C for tools that are also operated and/or charged directly from the mains or a **non-isolated source**, including tools provided with integral **battery chargers**.

Annex D gives guidance regarding the assembly of the applicable requirements of the main body and those dependent on the power source.

Annex E provides requirements for tools or **battery charging systems** powered by a Universal Serial Bus (USB) power source.

Annex F provides requirements for **hand-held tools** intended to be used **at height** and provided with an **attachment point** for a **tool lanyard** which is either **integral** to the tool or specially designed by the original tool manufacturer for mounting to the tool.

Hand-held electric tools, which can be mounted on a support or working stand for use as fixed tools without any alteration of the tool itself, are within the scope of this standard and such combination of a **hand-held tool** and a support is considered to be a **transportable tool** and thus covered by the relevant Part 3.

This document does not apply to:

- tools intended to be used in the presence of explosive atmosphere (dust, vapour or gas);
- tools used for preparing and processing food;
- tools for medical purposes;

NOTE 1 IEC 60601 series covers a variety of tools for medical purposes.

- tools intended to be used with cosmetics or pharmaceutical products;
- heating tools;

NOTE 2 IEC 60335-2-45 covers a variety of heating tools.

– electric motor-operated household and similar electrical appliances;

NOTE 3 The IEC 60335 series covers a variety of electric motor-operated household and similar electrical appliances.

– electrical equipment for industrial machine-tools;

NOTE 4 IEC 60204 series deals with electrical safety of machinery.

– small low voltage transformer operated bench tools intended for model making, e.g. the making of radio-controlled model aircraft or cars, etc.

NOTE 5 In the United States of America, the following conditions apply:

This document deals with tools used in non-hazardous locations in accordance with the National Electrical Code, NFPA 70.

NOTE 6 In Canada, the following conditions apply:

This document deals with tools used in non-hazardous locations in accordance with the Canadian Electric Code, Part 1, CSA C22.1, and General Requirements – Canadian Electrical Code, Part II, CAN/CSA-C22.2 No. 0.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60065:2014, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-75:2014, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

IEC 60112:2020, *Method for the determination of the proof and comparative tracking indices of solid insulating materials*

IEC 60127-1:2023, *Miniature fuses - Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

IEC 60227-1:2007, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements* Sec. Note: This standard has been withdrawn.

IEC 60227-5:2011, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 5: Flexible cables (cords)* Sec. Note: This standard has been withdrawn.

IEC 60245-1:2003, *Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 1: General requirements*
Amendment 1:2007

IEC 60245-4:2011, *Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 4: Cords and flexible cables*

IEC 60252-1:2010, *AC motor capacitors – Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation*[1]
Amendment 1:2013

IEC 60309-1:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes - Part 1: General requirements*

[1] A consolidated version exists (Edition 2.1:2013) which includes IEC 60252-1:2010 and its Amendment 1 (2013).

IEC 60309-2:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes - Part 2: Dimensional compatibility requirements for pin and contact-tube accessories*

IEC 60309-4:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes - Part 4: Switched socket-outlets with or without interlock*

IEC 60309-5:2017, *Plugs, socket-outlets and couplers for industrial purposes - Part 5: Dimensional compatibility and interchangeability requirements for plugs, socket-outlets, ship connectors and ship inlets for low-voltage shore connection systems (LVSC)*

IEC 60320-1:2021, *Appliance couplers for household and similar general purposes - Part 1: General requirements*

IEC 60320-2-1:2018, *Appliance couplers for household and similar general purposes - Part 2-1: Sewing machine couplers*

IEC 60320-2-3:2018, *Appliance couplers for household and similar general purposes - Part 2-3: Appliance couplers with a degree of protection higher than IPX0*

IEC 60320-2-4:2018, *Appliance couplers for household and similar general purposes - Part 2-4: Couplers dependent on appliance weight for engagement*

IEC 60320-3:2014, *Appliance couplers for household and similar general purposes - Part 3: Standard sheets and gauges*
Amendment 1:2018
Amendment 2:2022

IEC 60384-14:2023, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60384-16:2019, *Fixed capacitors for use in electronic equipment – Part 16: Sectional specification – Fixed metallized polypropylene film dielectric DC capacitors*

IEC 60417, *Graphical symbols for use on equipment,* available at http://www.graphical-symbols.info/graphical-symbols/equipment/db1.nsf/$enHome?OpenForm

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*[2]
Amendment 1:1999
Amendment 2:2013

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

[2] A consolidated version exists (Edition 2.2:2013) which includes IEC 60529:1989 and its Amendment 1 (1999) and Amendment 2 (2013).

IEC 60695-2-12:2021, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials*

IEC 60695-2-13:2021, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*

IEC 60695-10-2:2014, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test*

IEC 60695-11-10:2013, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

IEC 60730-1:2022, *Automatic electrical controls for household and similar use – Part 1: General requirements*

IEC 60747-5-5:2020, *Semiconductor devices - Discrete devices - Part 5-5: Optoelectronic devices - Photocouplers*

IEC 60825-1:2014, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60906-1:2009, *IEC system of plugs and socket-outlets for household and similar purposes – Part 1: Plugs and socket-outlets 16 A 250 V a.c.*

IEC 60906-2:2011, *IEC system of plugs and socket-outlets for household and similar purposes – Part 2: Plugs and socket-outlets 15 A 125 V a.c. and 20 A 125 V a.c.*

IEC 60990:2016, *Methods of measurement of touch current and protective conductor current*

IEC 60998-2-1:2002, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units*

IEC 60998-2-2:2002, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm^2 up to 35 mm^2 (included)*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2020, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2014, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*[3]
Amendment 1:2017

IEC 61000-4-6:2023, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

[3] A consolidated version exists (Edition 3.1:2017) which includes IEC 61000-4-5:2014 and its Amendment 1 (2017).

IEC 61000-4-11:2020, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*

IEC 61008-1:2010, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules*[4]
Amendment 1:2012
Amendment 2:2013

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

IEC 61058-1-1:2016, *Switches for appliances – Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2:2016, *Switches for appliances – Part 1-2: Requirements for electronic switches*

IEC 61058-2-6:2018, *Switches for appliances – Part 2-6: Particular requirements for switches used in electric motor-operated hand-held tools, transportable tools and lawn and garden machinery*

IEC 61210:2010, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

IEC 61508-2:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems*

IEC 61540:1997, *Electrical accessories – Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)*[5]
Amendment 1:1998

IEC 61558-1:2017, *Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests*

IEC 61558-2-4:2021, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers*

IEC 61558-2-6:2021, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

IEC 61558-2-16:2021, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*

IEC 61984:2008, *Connectors – Safety requirements and tests*

IEC 62133-1:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 1: Nickel systems*

IEC 62133-2:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary lithium cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems*

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4 A consolidated version exists (Edition 3.2:2013) which includes IEC 61008-1:2010 and its Amendment 1 (2012) and Amendment 2 (2013).

5 A consolidated version exists (Edition 1.1:1999) which includes IEC 61540:1997 and its Amendment 1 (1998).