



SLOVENSKI STANDARD
oSIST prEN IEC 62841-1:2025
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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

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

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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	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING	<input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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

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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

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE
TOOLS AND LAWN AND GARDEN MACHINERY –
SAFETY –****Part 1: General requirements****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) 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 62841-1 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.

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

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

213

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

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

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

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

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

224 – requirements: in roman type

225 – *test specification: in italic type*

226 – Notes: in smaller roman type

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

229 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
230 are numbered starting from 201.

231 A list of all parts of the IEC 62841 series, under the general title: *Electric motor-operated hand-held*
232 *tools, transportable tools and lawn and garden machinery – Safety*, can be found on the IEC website.

233 The committee has decided that the contents of this publication will remain unchanged until the stability
234 date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific
235 publication. At this date, the publication will be

236 – • reconfirmed,

237 – • withdrawn,

238 – • replaced by a revised edition, or

239 – • amended.

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

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

243 NOTE 3 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations
244 may need a transitional period following publication of a new, amended or revised IEC publication in which to make products
245 in accordance with the new requirements and to equip themselves for conducting new or revised tests.

246 It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not
247 earlier than 36 months from the date of publication.

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

249 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
250 establish requirements for the tool.

251

252

253 **ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE**
254 **TOOLS AND LAWN AND GARDEN MACHINERY –**
255 **SAFETY –**

256
257 **Part 1: General requirements**
258

259 **1 Scope**

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

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

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

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

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

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

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

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

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

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

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

285 This document does not apply to:

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

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

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

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

293 – electric motor-operated household and similar electrical appliances;

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

295 – electrical equipment for industrial machine-tools;

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

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

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

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

301 NOTE 6 In Canada, the following conditions apply:

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

304 2 Normative references

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

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

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

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

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

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

315 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.**

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

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

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

324 IEC 60252-1:2010, *AC motor capacitors – Part 1: General – Performance, testing and rating – Safety
325 requirements – Guidance for installation and operation¹*
326 Amendment 1:2013

327 IEC 60309-1:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial
328 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).

- 329 IEC 60309-2:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial*
330 *purposes - Part 2: Dimensional compatibility requirements for pin and contact-tube accessories*
- 331 IEC 60309-4:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial*
332 *purposes - Part 4: Switched socket-outlets with or without interlock*
- 333 IEC 60309-5:2017, *Plugs, socket-outlets and couplers for industrial purposes - Part 5: Dimensional*
334 *compatibility and interchangeability requirements for plugs, socket-outlets, ship connectors and ship*
335 *inlets for low-voltage shore connection systems (LVSC)*
- 336 IEC 60320-1:2021, *Appliance couplers for household and similar general purposes - Part 1: General*
337 *requirements*
- 338 IEC 60320-2-1:2018, *Appliance couplers for household and similar general purposes - Part 2-1: Sewing*
339 *machine couplers*
- 340 IEC 60320-2-3:2018, *Appliance couplers for household and similar general purposes - Part 2-3:*
341 *Appliance couplers with a degree of protection higher than IPX0*
- 342 IEC 60320-2-4:2018, *Appliance couplers for household and similar general purposes - Part 2-4:*
343 *Couplers dependent on appliance weight for engagement*
- 344 IEC 60320-3:2014, *Appliance couplers for household and similar general purposes - Part 3: Standard*
345 *sheets and gauges*
346 *Amendment 1:2018*
347 *Amendment 2:2022*
- 348 IEC 60384-14:2023, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification*
349 *– Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*
- 350 IEC 60384-16:2019, *Fixed capacitors for use in electronic equipment – Part 16: Sectional specification*
351 *– Fixed metallized polypropylene film dielectric DC capacitors*
- 352 IEC 60417, *Graphical symbols for use on equipment*, available at [http://www.graphical-symbols.info/graphical-symbols/equipment/db1.nsf/\\$enHome?OpenForm](http://www.graphical-symbols.info/graphical-symbols/equipment/db1.nsf/$enHome?OpenForm)
353 <https://standards.globalspec.com/stds/iec/60309-2025/8ab241/osist-pren-iec-62841-1-2025>
- 354 IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*²
355 *Amendment 1:1999*
356 *Amendment 2:2013*
- 357 IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage systems – Part 1:*
358 *Principles, requirements and tests*
- 359 IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of*
360 *coating, potting or moulding for protection against pollution*
- 361 IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4:*
362 *Consideration of high-frequency voltage stress*
- 363 IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-*
364 *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).

- 365 IEC 60695-2-12:2021, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods - Glow-*
366 *wire flammability index (GWFI) test method for materials*
- 367 IEC 60695-2-13:2021, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-*
368 *wire ignition temperature (GWIT) test method for materials*
- 369 IEC 60695-10-2:2014, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test*
- 370 IEC 60695-11-10:2013, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical*
371 *flame test methods*
- 372 IEC 60730-1:2022, *Automatic electrical controls for household and similar use – Part 1: General*
373 *requirements*
- 374 IEC 60747-5-5:2020, *Semiconductor devices - Discrete devices - Part 5-5: Optoelectronic devices -*
375 *Photocouplers*
- 376 IEC 60825-1:2014, *Safety of laser products – Part 1: Equipment classification and requirements*
- 377 IEC 60906-1:2009, *IEC system of plugs and socket-outlets for household and similar purposes – Part 1:*
378 *Plugs and socket-outlets 16 A 250 V a.c.*
- 379 IEC 60906-2:2011, *IEC system of plugs and socket-outlets for household and similar purposes – Part 2:*
380 *Plugs and socket-outlets 15 A 125 V a.c. and 20 A 125 V a.c.*
- 381 IEC 60990:2016, *Methods of measurement of touch current and protective conductor current*
- 382 IEC 60998-2-1:2002, *Connecting devices for low-voltage circuits for household and similar*
383 *purposes – Part 2-1: Particular requirements for connecting devices as separate entities with screw-*
384 *type clamping units*
- 385 IEC 60998-2-2:2002, *Connecting devices for low-voltage circuits for household and similar*
386 *purposes – Part 2-2: Particular requirements for connecting devices as separate entities with*
387 *screwless-type clamping units*
- 388 IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for*
389 *screw-type and screwless-type clamping units – Part 1: General requirements and particular*
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³ A consolidated version exists (Edition 3.1:2017) which includes IEC 61000-4-5:2014 and its Amendment 1 (2017).

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405 *for household and similar uses (RCCBs) – Part 1: General rules*⁴
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407 Amendment 2:2013
- 408 IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*
- 409 IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*
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439 *use in portable applications – Part 2: Lithium systems*

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).