



SLOVENSKI STANDARD
SIST EN 62841-1:2015/A11:2022

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**Elektromotorna ročna orodja, prenosna orodja ter stroji za trato in vrt - Varnost - 1.
del: Splošne zahteve - Dopolnilo A11**

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

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EUROPEAN STANDARD

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English Version

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

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses - Sécurité - Partie 1: Exigences générales

Elektrische motorbetriebene handgeführte Werkzeuge, transportable Werkzeuge und Rasen- und Gartenmaschinen - Sicherheit - Teil 1: Allgemeine Anforderungen

This amendment A11 modifies the European Standard EN 62841-1:2015; it was approved by CENELEC on 2022-03-14. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (EN 62841-1:2015/A11:2022) 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) 2023-03-14
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2025-03-14

This document will amend EN 62841-1:2015.

This amendment was developed to correct the determination of the emission sound pressure level for hand-held tools. Since the title of Annex I is "Measurement of noise and vibration emission", the requirements for noise and vibration reduction are transferred to Clause 21. In addition, the Annex ZZ is replaced with a detailed one. And Annex ZA and Clause 2 are replaced in order to have only dated normative references.

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 has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For 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.

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1 Modification to the Cover Page

Replace the existing supersession information with the following:

“Supersedes EN 60745-1:2009, EN 61029-1:2009”

2 Modification to the European foreword

Replace the existing supersession information in the fourth paragraph with the following:

“The EN 62841 series supersedes the EN 60745 series and the EN 61029 series.”

3 Replacement of Clause 2, “Normative references”

Replace the existing Clause 2 with the following:

“2 Normative references

Replace the normative reference IEC 60127 (all parts) with the following in Clause 2 and throughout the text:

EN 60127-1:2006,¹ *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

EN 60127-2:2014, *Miniature fuses - Part 2: Cartridge fuse-links*

EN 60127-3:2015, *Miniature fuses - Part 3: Sub-miniature fuse-links*

EN 60127-4:2005,² *Miniature fuses – Part 4: Universal modular fuse-links (UMF) - Through-hole and surface mount types*

EN 60127-5:2017, *Miniature fuses - Part 5: Guidelines for quality assessment of miniature fuse-links*

EN 60127-6:2014, *Miniature fuses - Part 6: Fuse-holders for miniature fuse-links*

EN 60127-7:2016, *Miniature fuses - Part 7: Miniature fuse-links for special applications*

EN IEC 60127-8:2018, *Miniature fuses - Part 8: Fuse resistors with particular overcurrent protection*

Replace the normative reference IEC 60227 (all parts) with the following in Clause 2 and throughout the text:

IEC 60227-1:2007, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60227-2:1997,³ *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 2: Test methods*

IEC 60227-5:2011, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)*

IEC 60227-6:2001, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 6: Lift cables and cables for flexible connections*

¹ As impacted by EN 60127-1/2006/A1:2011 and EN 60127-1:2006/A2:2015

² As impacted by EN 60127-4:2005/A1:2009 and EN 60127-4:2005/A2:2013

³ As impacted by IEC 60227-2:1997/A1:2003

IEC 60227-7:1995, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 7: Flexible cables screened and unscreened with two or more conductors*

Replace the normative reference IEC 60245 (all parts) with the following in Clause 2 and throughout the text:

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

IEC 60245-2:1994, *Rubber insulated cables - Rated voltages up to and including 450/750 V – Part 2: Test methods*

IEC 60245-3:1994,⁴ *Rubber insulated cables - Rated voltages up to and including 450/750 V – Part 3: Heat resistant silicone insulated cables*

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

IEC 60245-7:1994, *Rubber insulated cables - Rated voltages up to and including 450/750 V – Part 7: Heat resistant ethylene-vinyl acetate rubber insulated cables*

IEC 60245-8:1998, *Rubber insulated cables - Rated voltages up to and including 450/750 V – Part 8: Cords for applications requiring high flexibility*

Replace the normative reference IEC 60320 (all parts) with the following in Clause 2 and throughout the text:

EN 60320-1:2015,⁵ *Appliance couplers for household and similar general purposes – Part 1: General requirements*

EN 60320-2-2:1998, *Appliance couplers for household and similar general purposes - Part 2-2: Interconnection couplers for household and similar equipment*

EN 60320-2-3:1998,⁶ *Appliance couplers for household and similar general purposes – Part 2-3: Appliance couplers with a degree of protection higher than IPX0*

EN 60320-2-4:2006,⁷ *Appliance couplers for household and similar general purposes – Part 2-4: Appliance couplers dependent on appliance weight for engagement*

EN 60320-3:2014,⁸ *Appliance couplers for household and similar general purposes – Part 3: Standard sheets and gauges*

Replace the normative reference IEC 60884 (all parts) with the following in Clause 2 and throughout the text:

IEC 60884-1:2002,⁹ *Plugs and socket-outlets for household and similar purposes – Part 1: General requirements*

⁴ As impacted by IEC 60245-3:1994/A1:1997 and IEC 60245-3:1994/A2:2011.

⁵ As impacted by EN 60320-1:2015/AC:2016.

⁶ As impacted by EN 60320-2-3:1998/A1:2005.

⁷ As impacted by EN 60320-2-4:1998/A1:2009.

⁸ As impacted by EN 60320-3:2014/A1:2021.

⁹ As impacted by IEC 60884-1:2002/A1:2006 and IEC 60884-1:2002/A2:2013.

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IEC 60884-2-1:2006, *Plugs and socket-outlets for household and similar purposes – Part 2-1: Particular requirements for fused plugs*

IEC 60884-2-2:2006, *Plugs and socket-outlets for household and similar purposes – Part 2-2: Particular requirements for socket-outlets for appliances*

IEC 60884-2-5:2017, *Plugs and socket-outlets for household and similar purposes – Part 2-5: Particular requirements for adaptors*

IEC 60884-2-7:2011,¹⁰ *Plugs and socket-outlets for household and similar purposes – Part 2-7: Particular requirements for cord extension sets*

Replace the normative reference ISO 5347 (all parts) with the following in Clause 2 and throughout the text:

ISO 5347-8:1993, *Methods for the calibration of vibration and shock pick-ups — Part 8: Primary calibration by dual centrifuge*

ISO 5347-12:1993, *Methods for the calibration of vibration and shock pick-ups — Part 12: Testing of transverse shock sensitivity*

ISO 5347-13:1993, *Methods for the calibration of vibration and shock pick-ups — Part 13: Testing of base strain sensitivity*

ISO 5347-15:1993, *Methods for the calibration of vibration and shock pick-ups — Part 15: Testing of acoustic sensitivity*

ISO 5347-16:1993, *Methods for the calibration of vibration and shock pick-ups — Part 16: Testing of mounting torque sensitivity*

ISO 5347-18:1993, *Methods for the calibration of vibration and shock pick-ups — Part 18: Testing of transient temperature sensitivity*

ISO 5347-22:1997, *Methods for the calibration of vibration and shock pick-ups — Part 22: Accelerometer resonance testing — General methods*

Add the following normative references:

CR 1030-1:1995, *Hand-arm vibration - Guidelines for vibration hazards reduction - Part 1: Engineering methods by design of machinery*

EN ISO 11688-1:2009, *Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995)*

Delete the normative references ASTM B 258 and UL 969.”

¹⁰ As impacted by IEC 60884-2-7:2011/A1:2013.

4 Modification to Clause 3, “Terms and definitions”

At the end of Clause 3, **add** the following terms and definitions:

“

Z.3.1

label

adhesive-backed construction bearing printing

Z.3.2

maximum temperature rating

highest surface temperature at which a **label** is intended to be used

Z.3.3

minimum temperature rating

lowest surface temperature at which a **label** is intended to be used

Z.3.4

overlamination

transparent film applied over printed material for protection”

5 Modification to Clause 8, “Marking and instructions”

In 8.12, **replace** the existing NOTE at the end of the 5th paragraph, the 6th, 7th and the 8th paragraph with the following:

“

NOTE 1 The designation “n-hexane” is the chemical nomenclature for a “normal” or straight chain hydrocarbon. An example of this petroleum spirit is also known as a certified ACS (American Chemical Society) reagent grade hexane (CAS #110-54-3).

If the marking has an adhesive backing, the adhesive backing shall be durable.

Compliance is checked by either meeting the requirements of Annex ZB or by the following tests.

Three labels applied to the tools or a panel of the test surface material are placed in an oven for a minimum of 24 h with the oven maintained at a temperature of (120 ± 2) °C, or alternatively for a minimum of 200 h at the temperature that the label is exposed to during the test of Clause 12.

Six additional labels applied to the tool or a panel of the test surface material are placed in a controlled atmosphere maintained at 21 °C to 30 °C with a relative humidity of minimum 45 % for at least 24 h. After this conditioning, immerse three labels in water and the other three labels in IRM 903 oil at a temperature of 21 °C to 30 °C for 48 h.

Three additional labels applied to the tool or a panel of the test surface material are placed in a controlled atmosphere maintained at 21 °C to 30 °C with a relative humidity of minimum 45 % for 72 h.

After these conditionings, it shall not be easy to remove the label by scraping across the label with a flat steel blade of 0,8 mm thickness and any convenient width, held at right angles, and the label shall show no signs of curling.

”

In 8.14.2 Za), **replace** the item 1 with the following:

“

1) The noise emission, measured in accordance with I.2, as follows:

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- A-weighted emission sound pressure level L_{pA} and its uncertainty K_{pA} , where L_{pA} exceeds 70 dB(A).

Where L_{pA} does not exceed 70 dB(A), this fact shall be indicated;

- A-weighted sound power level L_{WA} and its uncertainty K_{WA} , where the A-weighted emission sound pressure level L_{pA} exceeds 80 dB(A);
- C-weighted peak emission sound pressure level $L_{pC,peak}$, where this exceeds 130 dB in relation to 20 μ Pa.

”

6 Additions to Clause 21, “Construction”

Add the following new subclauses after 21.35:

“21.Z1 Noise reduction

Noise reduction of tools is an integral part of the design process and shall be achieved by particularly applying measures at source to control noise, see for example EN ISO 11688-1:2009. The success of the applied noise reduction measures is assessed on the basis of the actual noise emission values, measured in accordance with I.2, in relation to other machines of the same type with comparable non acoustical technical data.

The major sound sources of tools are: motor, fan, gear and the accessory.

21.Z2 Vibration reduction

The vibration at the handles shall be kept as low as possible without unduly affecting the performance or the ergonomics (weight, handling, etc.) of the tool.

In particular, vibration shall be reduced by the application of engineering measures as given in CR 1030-1:1995. The success of the applied vibration measures is assessed by comparing the vibration levels for the tool, measured in accordance with I.3, with those for other tools of the same type and with a comparable specification and performance.”

7 Modification to Clause 24, “Supply connection and external flexible cords”

Replace the existing Table 8 with the following:

“

Table 8 — Minimum cross-sectional area of supply cords

Rated current of the tool A	Nominal cross-sectional area mm ²
Up to and including 6	0,75
Over 6 up to and including 10	1
Over 10 up to and including 16	1,5
Over 16 up to and including 25	2,5

“

8 Modifications to Annex I, “Measurement of noise and vibration emissions”

Replace the existing Subclause I.2.Z1 with the following:

“Delete the NOTE before I.2.1.”

Replace the existing Subclause I.2.3.1 with the following:

“I.2.3.1 Hand-held tools

The A-weighted emission sound pressure level at the work station, L_{pA} , shall be determined in accordance with EN ISO 11203:2009 as follows:

$$L_{pA} = L_{WA} - Q$$

where $Q = 8$ dB.

NOTE 1 This value of Q has been determined, during experimental investigations, to be applicable to **hand-held power tools**. The resulting A-weighted emission sound pressure level at the workstation is equivalent to the value of the surface sound pressure level at a distance of 0,7 m from the power tool. This distance has been chosen to give satisfactory reproducibility of results, and to permit comparison of the acoustic performance of different **hand-held power tools**, which do not, in general, have uniquely defined work stations. Under free field conditions, where it could be required to estimate the emission sound pressure level, $L_{pA,r1}$, at a distance r_1 from the geometric centre of the power tool, this can be done by applying the formula:

$$L_{pA,r1} = L_{pA} + 20 \lg \left(\frac{0,7 \text{ m}}{r_1} \right) \text{ dB}$$

NOTE 2 At any given position in relation to a particular machine, and for given mounting and operating conditions, the emission sound pressure levels determined by the method of this document will in general be lower than the directly measured sound pressure levels for the same machine in the typical workroom where it is used. This is due to the influence of sound reflecting surfaces in the workroom compared to the free field conditions of the test specified here. A method of calculating the sound pressure levels in the vicinity of a machine operating alone in a workroom is given in ISO/TR 11690-3. Commonly observed differences are 1 dB to 5 dB, but in extreme cases the difference might be even greater.

If required, the C-weighted peak emission sound pressure level $L_{pC,peak}$ shall be measured at each of the five measurement positions specified in I.2.2. The C-weighted peak emission sound pressure level at the work station is the highest C-weighted peak emission sound pressure level measured at any of the five microphone positions; no corrections are permitted.”

Replace the existing Subclause I.2.9 with the following:

“The declaration of the noise emission values shall be a dual number according to EN ISO 4871:2009. It shall declare the noise emission value L (L_{pA} and L_{WA}) and the respective uncertainty K (K_{pA} and K_{WA}). If required, the C-weighted emission peak sound pressure level $L_{pC,peak}$ shall be given.

NOTE 1 For a standard deviation of reproducibility of the method σ_{R0} of 1,5 dB and for a typical standard deviation of production, the values for the uncertainties, K_{pA} and K_{WA} respectively, are expected to be 3 dB, particularly for tools tested at no-load. For tests done under load, the uncertainty can be higher.

The noise declaration shall state that the noise emission values have been obtained according to this noise test code. If this statement is not true, the noise declaration shall indicate clearly what the deviations from this standard, and from the basic standards, are.

NOTE 2 If the measured value is the average based on a sample of three power tools that has been properly sampled, then K normally is 3 dB. Further guidance on sampling and uncertainty terms is given in EN 27574-4:1988 and EN ISO 4871:2009.”

Replace the existing Subclause I.3.Z1 with the following:

“Delete the NOTE before I.3.1.”

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9 Replacement of Annex ZA, “Normative references to international publications with their corresponding European publications”

Replace the existing Annex ZA with the following:

“

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