ILNAS

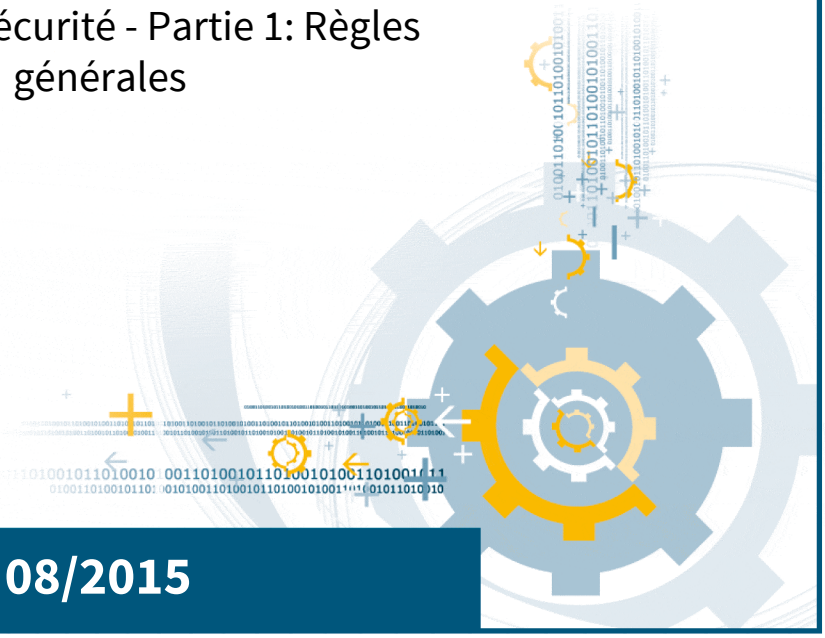
Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 62841-1:2015

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

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

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



08/2015

National Foreword

This European Standard EN 62841-1:2015 was adopted as Luxembourgish Standard ILNAS-EN 62841-1:2015.

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- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

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EUROPEAN STANDARD EN 62841-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2015

ICS 25.140.20

Supersedes EN 60335-1:2012 (partially), EN 60745-1:2009, EN 61029-1:2009

English Version

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 1: General requirements (IEC 62841-1:2014 + corrigendum May 2014, modified)

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses - Sécurité - Partie 1: Règles générales
(IEC 62841-1:2014 + corrigendum May 2014, modifiée)

Elektrische motorbetriebene handgeführte Werkzeuge, transportable Werkzeuge und Rasen- und Gartenmaschinen - Sicherheit - Teil 1: Allgemeine Anforderungen
(IEC 62841-1:2014 + corrigendum May 2014, modifiziert)

This European Standard was approved by CENELEC on 2015-06-15. 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.

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 European Standard 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62841-1:2015 E

Foreword

The text of document 116/156/FDIS, future edition 1 of IEC 62841-1, prepared by IEC/TC 116 "Safety of motor-operated electric tools" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62841-1:2015.

A draft amendment, which covers common modifications to IEC 62841-1, was prepared by CLC/TC 116 "Safety of motor-operated electric tools" and approved by CENELEC.

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)	2016-06-15
– latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	-

The EN 62841 series supersedes the EN 60745 series, the EN 61029 series and (for lawn and garden machinery) parts of the EN 60335 series.

This European Standard replaces EN 60745-1:2009 and EN 61029-1:2009. However, EN 60745-1:2009 and EN 61029-1:2009 remain valid until all Part 2's which are used in conjunction with them have been withdrawn. No date of withdrawal (dow) has been given pending the updating of all the Part 2's to align with this EN 62841-1:2015 as respective Part 2's and Part 3's. The applicable date of withdrawal is given in each Part 2 and Part 3. It is intended the dow for this Part 1 will be fixed once all the Part 2's and Part 3's have been published.

EN 62841-1:2015 includes the following significant technical changes:

- requirements in various clauses introduced or modified in order to include the requirements for transportable tools and lawn and garden machinery (formerly covered by EN 61029-1 and EN 60335-1);
- leakage current test and electric strength test moved from former Clauses 13 and 15 to Annexes C and D;
- former Clauses 29, 30 and 31 renumbered to become Clauses 6, 13 and 15;
- requirements for electronic safety critical functions added to Clause 18;
- requirements for switches revised and moved from Annex I to Clause 23;
- clarifications in respect to soft materials (elastomers) added to Clauses 9, 19 and 13;
- test finger in Figure 1 of EN 60745-1 and test probe in Figure 2 of EN 60745-1 replaced by references to basic IEC standards;
- requirements for Li-ion battery systems added to Annexes K and L;
- Annex M removed.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s), see informative Annex ZZ, which is an integral part of this document.

This European Standard is divided into four parts:

Part 1: General requirements which are common to most electric motor operated tools (for the purpose of this standard referred to simply as tools) which could come within the scope of this standard;

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.

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

Compliance with the relevant clauses of Part 1 together with a relevant Part 2, 3 or 4 of this standard provides one means of conforming with the essential health and safety requirements of the Directive concerned.

A relevant Part 2, 3 or 4 is one in which the type of the tool or an accessory which is to be used with the tool is within the scope of that Part 2, 3 or 4.

When a relevant Part 2, 3, or 4 does not exist, Part 1 can help to establish the requirements for the tool, but will not by itself provide a means of conforming to the relevant essential health and safety requirements of the Machinery Directive.

Warning: Other requirements and other EU Directives can be applicable to the products falling within the scope of this standard.

CEN Technical Committees have produced a range of standards dealing with a similar range of non-electrically powered tools. Where necessary, normative references are made to these standards in the relevant Part 2, 3 or 4.

This European Standard follows the overall requirements of EN ISO 12100.

NOTE 1 In this standard, the following print types are used:
- requirements proper; in roman type
- *test specifications: in italic type;*
- explanatory matter: 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 B, K and L, subclauses which are additional to those in the main body of the text are numbered starting from 201.

NOTE 3 Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62841-1:2014 are prefixed “Z”.

Endorsement notice

The text of the International Standard IEC 62841-1:2014 + corrigendum May 2014 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

2 Normative references

Add *the following normative references:*

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

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

4 General requirements

Delete *the third paragraph.*

8 Marking and instructions

8.4

Replace *the 2nd paragraph with the following:*

Markings specified in 8.2 and 8.3 shall be clearly discernible from the outside of the tool. Other markings on the tool may be visible after removal of a cover, provided that the location of the markings is readily accessible.

8.14

Add *the following after the 2nd paragraph:*

The words "Original instructions" shall appear on the language version(s) verified by the manufacturer or his authorised representative. Where no "Original instructions" exist in the official language(s) of the country where the tool is to be used, a translation into that/those language(s) shall be provided by the manufacturer or his authorised representative or by the person bringing the tool into the language area in question. The translations shall bear the words "Translation of the original instructions", and they shall be accompanied by a copy of the "Original instructions".

8.14.2

Add *the following after d) 5):*

Za) Emissions

1) The noise emission, measured in accordance with I.2, as follows:
   - 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_{pCpeak}, where this exceeds 63 Pa (130 dB in relation to 20 µPa).

2) Recommendation for the operator to wear hearing protection.

3) The vibration total value and its uncertainty measured in accordance with I.3.

When the vibration total value does not exceed 2,5 m/s², this shall be stated.

When the vibration total value exceeds 2,5 m/s², its value shall be given in the instructions.

4) The following information:

- that the declared vibration total value(s) and the declared noise emission value(s) have been measured in accordance with a standard test method and may be used for comparing one tool with another;
- that the declared vibration total value(s) and the declared noise emission value(s) may also be used in a preliminary assessment of exposure.

5) A warning:

- that the vibration and noise emissions during actual use of the power tool can differ from the declared values depending on the ways in which the tool is used especially what kind of workpiece is processed; and
- of the need to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

18 Abnormal operation

18.8.1

*In Table 4, **replace** the table footnote by the following:*

* Performance levels are to be specified in the relevant part of EN 62841-2, EN 62841-3 or EN 62841-4.

***Delete** the 5th paragraph and the subsequent NOTE 3.*

21 Construction

*In 21.18.1, **delete** the 2nd paragraph.*

***Add** the following new subclause after 21.18.1.2:*

21.18.1.Z1 Unless **hand-held tools** are equipped with a **momentary power switch** without lock-on device, voltage recovery following an interruption of the supply shall not give rise to a hazard. The relevant part of EN 62841-2 specifies if this subclause applies and gives specific requirements.

Compliance is checked by inspection.

***Replace** the existing Subclause 21.18.2.1 by the following:*

21.18.2.1 Unless transportable tools are equipped with a momentary power switch without lock-on device, voltage recovery following an interruption of the supply shall not give rise to a hazard. The relevant part of EN 62841-3 specifies if this subclause applies and gives specific requirements.

Compliance is checked by inspection.

Annexes

Replace *the existing Annex E by the following:*

Annex E

Void

Replace *the title of Annex I by the following:*

Annex I
(normative)

Measurement of noise and vibration emissions

Add *the following before I.2.1:*

I.2.Z1 Noise reduction

Noise reduction at 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. The success of the applied noise reduction measures is assessed on the basis of the actual noise emission values 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.

Add *the following before I.3.1:*

I.3.Z1 Vibration reduction

The vibration at the handles shall be kept as low as possible without unduly affecting the performance and 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. The success of the applied vibration measures is assessed by comparing the vibration levels for the tool with those for other tools of the same type and with a comparable specification and performance.

Replace *the 4th paragraph of I.3.5.1 with the following:*

When the test procedure is not provided in a relevant part of EN 62841-2, EN 62841-3 or EN 62841-4, an operating condition shall be specified that is reproducible and representative of the noisiest operation in typical usage of the tool. The vibration test may simulate a single phase of a task or a working cycle, consisting of a set of operations where the operator is being exposed to vibration. However, the operating condition for the noise emission test shall, if practicable, also be used for the vibration test.

Annex K
(normative)

Battery tools and battery packs

In K.8.14.2, item e), ***add*** *the following after 3):*

Z1) For battery tools with integral battery: instruction, how the integral battery can be removed safely from the tool after the tool's end of life, and information about the type of battery such as Li-Ion, NiCd and NiMH.