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Standards

Irish Standard

I.S. EN 50636-2-107:2015&A1:2018&A2:2020

# Safety of household and similar appliances - Part 2-107: Particular requirements for robotic battery powered electrical lawnmowers

**I.S. EN 50636-2-107:2015&A1:2018&A2:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

EN 50636-2-107:2015/A1:2018

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## National Foreword

I.S. EN 50636-2-107:2015&A1:2018&A2:2020 is the adopted Irish version of the European Document EN 50636-2-107:2015, Safety of household and similar appliances - Part 2-107: Particular requirements for robotic battery powered electrical lawnmowers

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*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

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EUROPEAN STANDARD  
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**EN 50636-2-107:2015/A2**

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English Version

**Safety of household and similar appliances - Part 2-107:  
Particular requirements for robotic battery powered electrical  
lawnmowers**

Appareils électrodomestiques et analogues - Partie 2-107:  
Exigences particulières relatives aux tondeuses à gazon  
électriques robotisées alimentées par batteries

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-107: Besondere Anforderungen für  
batteriebetriebene Roboter-Rasenmäher

This amendment A2 modifies the European Standard EN 50636-2-107:2015; it was approved by CENELEC on 2019-09-27. 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.

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN 50636-2-107:2015/A2:2020 (E)**

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## European foreword

This document [EN 50636-2-107:2015/A2:2020] has been prepared by CLC/TC 116 “Safety of motor-operated electric tools”.

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to be implemented at national level by  
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standard or by endorsement
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standards conflicting with this document  
have to be withdrawn

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 amendment was developed to implement an extra test with a kneeling child foot test probe.

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.

## EN 50636-2-107:2015/A2:2020 (E)

### 1 Modification to Clause 1, "Scope"

*Add the following to the existing Clause 1:*

"This standard covers all significant hazards, hazardous situations or hazardous events relevant for tools covered by this standard.

NOTE 101 Essential requirements not mentioned in Table ZZ.1 are deemed to be not applicable, because the corresponding hazards are either not relevant for machines covered by this standard or do not require specific action by the designer."

### 2 Modification to Clause 2, "Normative references"

*Add the following normative reference:*

"EN ISO 8295:2004, *Plastics - Film and sheeting - Determination of the coefficients of friction (ISO 8295:1995)*".

### 3 Modification to 20.102.4.1, "Inadvertent foot access to the cutting means"

*Replace the first four paragraphs with the following:*

#### "20.102.4.1.1 General

Inadvertent access to the **cutting means** by the feet during operation shall be prevented, so far as reasonably practicable by the **cutting means enclosure**.

*Compliance is checked by the tests of 20.102.4.1.2, 20.102.4.1.3 and 20.102.4.1.4.*

*The tests are made with the **cutting means** in the most unfavourable **cutting position**. If the **cutting means** path height is different at different **cutting means** speeds, the test is conducted so as to include the extremes of **cutting means** height."*

*Replace the existing subclause 20.102.4.1.1 with the following:*

#### "20.102.4.1.2 Adult foot probe test

*The machine shall be placed on a hard, flat surface. The **guards** shall be in the normal operating position on the **cutting means enclosure** and the machine support members in contact with the supporting surface. Components of machines, such as wheels and frames, are where relevant considered as part of the **cutting means enclosure** for the purpose of these tests. The tests are conducted under static conditions."*

*The foot probe of Figure 102 shall be inserted towards the **cutting means** around the machine's external enclosure. The base of the probe is held horizontally at any height and then inclined up to 15° forward or backward from the horizontal (see Figure 102). The probe is applied around the entire machine as described in Figure 102 until a horizontal force of 20 N maximum is reached, or until the machine's enclosure lifts or moves from the original position, or until contact is made with the **cutting means** path, whichever occurs first.*

*The test probe shall not enter the path of the **cutting means** assembly."*

*Replace the existing subclause 20.102.4.1.2 with the following:*

#### "20.102.4.1.3 Foot probe test for standing child

*The machine shall be placed on a hard, flat surface. The **guards** shall be in the normal operating position on the **cutting means enclosure** and the machine support members in contact with the supporting surface. Components of machines, such as wheels and frames, are where relevant considered as part of the **cutting means enclosure** for the purpose of these tests. The tests are conducted under static conditions.*



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**Safety of household and similar appliances - Part 2-107:  
Particular requirements for robotic battery powered electrical  
lawnmowers**

Appareils électrodomestiques et analogues - Partie 2-107:  
Exigences particulières relatives aux tondeuses à gazon  
électriques robotisées alimentées par batteries

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-107: Besondere Anforderungen für  
batteriebetriebene Roboter-Rasenmäher

This amendment A1 modifies the European Standard EN 50636-2-107:2015; it was approved by CENELEC on 2017-08-09. 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.

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**EN 50636-2-107:2015/A1:2018**

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standards conflicting with this document  
have to be withdrawn

This amendment was developed to implement an extra foot probe test for children.

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 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 EN 50636-2-107:2015.

EUROPEAN STANDARD

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**Safety of household and similar appliances - Part 2-107:  
Particular requirements for robotic battery powered electrical  
lawnmowers  
(IEC 60335-2-107:2012 , modified)**

This European Standard was approved by CENELEC on 2014-12-01. 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.

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## Foreword

This document (EN 50636-2-107:2015) has been prepared by CLC/TC 116, "Safety of hand-held motor-operated electric tools".

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For the relationship with EU Directive 2006/42/EC, see informative Annex ZZ, which is an integral part of this document.

The text of IEC 60335-2-107:2012 has been revised by CLC/TC 116/WG 5, "Garden appliances", to bring this European Standard in line with the European Machinery Directive 2006/42/EC.

This document was submitted to the UAP under the reference FprEN 60335-2-107:2013. CLC/TC 116 confirmed that EN 60335-1:2012 is Part 1 of this document.

This European Standard is to be used in conjunction with EN 60335-1:2012 "*Household and similar electrical appliances - Safety – Part 1: General requirements*" and its amendments.

When "Part 1" is mentioned in this standard, it refers to EN 60335-1:2012.

This European Standard supplements or modifies the corresponding clauses in Part 1, so as to convert that publication into the European Standard "*Particular requirements for robotic battery powered electrical lawnmowers*".

Where a particular subclause of Part 1 is not mentioned in this European Standard, that subclause applies as far as is relevant. Where this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

Compliance with the relevant clauses of Part 1 together with this European Standard provides one means of conforming to the specified essential health and safety requirements of the Directive concerned.

This European Standard follows the overall requirements of EN ISO 12100:2010.

**Warning:** Other requirements arising from other EU Directives can be applicable to the products falling within the scope of this European Standard.

The following numbering system is used:

- subclauses that are numbered starting from 101 are additional to those in Part 1;
- additional annexes are lettered AA, BB, etc.

NOTE In this European 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.



## **Introduction**

This document is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered is as indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the other standards, for machines which have been built and designed to the provisions of this type C standard.

## 1 Scope

This clause of Part 1 is replaced by the following:

This European Standard specifies safety requirements and their verification for the design and construction of **robotic** battery powered electrical **rotary lawnmowers** and their **peripherals** with the **rated voltage** of the battery being not more than 75 V d.c. charged by mains electrical and/or alternative energies, e.g. solar power.

This European Standard does not apply to non-robotic machines such as **lawn trimmers, lawn edge trimmers, lawn edgers, ride-on lawnmowers or pedestrian controlled lawnmowers**.

This European Standard is not applicable to EMC and environmental hazards (except noise).

This European Standard does not apply to internal combustion engine(s), hybrid and fuel cell powered machines and associated charging systems.

This European Standard deals with all the significant hazards presented by battery powered **robotic lawnmowers** and their **peripherals** when they are used as intended and under conditions of misuse which are reasonably foreseeable.

This European Standard is not applicable to machines, which are manufactured before the date of publication of this document by CENELEC.

NOTE This European Standard does not apply to battery chargers (EN 60335-2-29:2004).

## 2 Normative references

This clause of Part 1 is applicable except as follows.

### Addition:

EN 60320-1:2001+ EN 60320-1:2001/A1:2007, *Appliance couplers for household and similar general purposes – Part 1: General requirements (IEC 60320-1:2001 + A1:2007)*

EN 60320-2-1:2000, *Appliance couplers for household and similar general purposes – Part 2-1: Sewing machine couplers (IEC 60320-2-1:2000)*

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

EN 60320-2-4:2006 + EN 60320-2-4:2006/A1:2009, *Appliance couplers for household and similar general purposes – Part 2 -4: Appliance couplers dependent on appliance weight for engagement (IEC 60320-2-4:2005 + A1:2009)*

EN 60335-1:2012, *Household and similar electrical appliances – Safety – Part 1: General requirements (IEC 60335-1:2010, mod.)*

EN 60335-2-29:2004, *Household and similar electrical appliances – Safety – Part 2-29: Particular requirements for battery chargers (IEC 60335-2-29:2002)*

EN 61032:1998, *Protection of persons and equipment by enclosures – Probes for verification (IEC 61032:1997)*

EN 62133:2003, *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 (IEC 62133:2002)*

EN ISO 354:2003, *Acoustics – Measurement of sound absorption in a reverberation room (ISO 354:2003)*

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