



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 60335-2-92:2005

ICS 65.060.70

**HOUSEHOLD AND SIMILAR ELECTRICAL  
APPLIANCES - SAFETY -- PART 2-92:  
PARTICULAR REQUIREMENTS FOR  
PEDESTRIAN-CONTROLLED  
MAINS-OPERATED LAWN SCARIFIERS  
AND AERATORS**

National Standards  
Authority of Ireland  
Glasnevin, Dublin 9  
Ireland

Tel: +353 1 807 3800  
Fax: +353 1 807 3838  
<http://www.nsai.ie>

**Sales**  
<http://www.standards.ie>

*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland and comes into  
effect on:  
October 7, 2005*

**NO COPYING WITHOUT NSAI  
PERMISSION EXCEPT AS  
PERMITTED BY COPYRIGHT  
LAW**

© NSAI 2005

**Price Code S**

Údarás um Chaighdeáin Náisiúnta na hÉireann



EUROPEAN STANDARD

**EN 60335-2-92**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2005

ICS 65.060.70

English version

**Household and similar electrical appliances – Safety**  
**Part 2-92: Particular requirements for pedestrian-controlled**  
**mains-operated lawn scarifiers and aerators**  
(IEC 60335-2-92:2002 + corrigendum 2003, modified)

Appareils électrodomestiques et  
analogues –  
Sécurité  
Partie 2-92: Règles particulières  
pour les scarificateurs de gazon et  
les aérateurs fonctionnant sur le réseau  
et pour conducteur à pied  
(CEI 60335-2-92:2002 + corrigendum  
2003, modifiée)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke  
Teil 2-92: Besondere Anforderungen  
für handgeführte netzbetriebene  
Rasen-Vertikutierer und Rasen-Lüfter  
(IEC 60335-2-92:2002 + corrigendum  
2003, modifiziert)

This European Standard was approved by CENELEC on 2005-06-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of the International Standard IEC 60335-2-92:2002 and its corrigendum May 2003, prepared by SC 61F, Safety of hand-held motor-operated electric tools, of IEC TC 61, Safety of household and similar electrical appliances, together with the common modifications prepared by the Technical Committee CENELEC TC 61F, Safety of hand-held and transportable motor-operated electric tools (WG5, Gardening appliances), was submitted to the formal vote and was approved by CENELEC as EN 60335-2-92 on 2005-06-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-06-01

In this European Standard the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances – Part 1: General requirements, and EN 13684, Garden equipment – Pedestrian controlled lawn aerators and scarifiers – Safety.

This Part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Particular requirements for pedestrian-controlled mains-operated lawn scarifiers and aerators.

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text of Part 1 is to be adapted accordingly.

This European Standard has been prepared under a mandate given to CEN and CENELEC by the European Commission and the European Free Trade Association and supports the essential health and safety requirements of the Machinery Directive. See Annex ZZ.

Other harmonised standards referred to this European Standard are listed in Annex ZC of Part 1 and this part. The annex lists the valid edition of those documents at the time of issue of this EN. All references are however to be understood as references to the latest edition.

NOTE 1 The following numbering system is used

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, figures and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 In this standard the following print types are used:

- Requirements proper;
- *Test specifications*
- Explanatory matter.

## Contents

1	Scope.....	4
2	Normative references .....	4
3	Definitions .....	4
4	General requirement.....	5
5	General conditions for the tests.....	5
6	Classification .....	5
7	Marking and instructions.....	5
8	Protection against access to live parts .....	6
9	Starting a motor-operated appliance .....	7
10	Power input and current .....	7
11	Heating .....	7
12	Void	
13	Leakage current and electric strength at operating temperature .....	7
14	Transient overvoltages .....	7
15	Moisture resistance .....	7
16	Leakage current and electric strength .....	8
17	Overload protection of transformers and associated circuits .....	8
18	Endurance .....	8
19	Abnormal operation .....	8
20	Stability and mechanical hazards.....	8
21	Mechanical strength .....	9
22	Construction .....	9
23	Internal wiring .....	10
24	Components .....	11
25	Supply connection and external flexible cords .....	11
26	Terminals for external conductors .....	12
27	Provision for earthing.....	12
28	Screws and connections.....	12
29	Clearances, creepage distances and solid insulation .....	12
30	Resistance to heat and fire.....	12
31	Resistance to rusting .....	12
32	Radiation, toxicity and similar hazards .....	12
	Annex ZAA (normative) Pictograms .....	14
	Annex ZZ (informative) Coverage of Essential Requirements of EC Directives .....	15
	Bibliography .....	15

Figure Z101 – Impact test fixture for handle insulation 13

Figure ZAA.1 – Pictogram illustrating “Beware of sharp tines. Tines continue to rotate after the motor is switched off – remove plug from mains before maintenance or if cord is damaged.”..... 14

Figure ZAA.2 – Pictogram illustrating “Keep supply flexible cord away from the tines” ..... 15

## 1 Scope

This clause of Part 1 is replaced by:

This European Standard specifies safety requirements and their verification for the design and construction of pedestrian controlled mains operated lawn scarifiers and aerators with a rated voltage being not more than 250 V single phase.

This standard does not apply to

- non-powered aerators,
- vertical axis aerators,
- aerators which cut into the soil by means of a reciprocating motion,
- battery powered lawn scarifiers and aerators,
- aerators cutting in the soil by water pressure.

This standard is not applicable to aerators/scarifiers which are manufactured before the date of publication of this document by CENELEC.

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

EN 13684, Garden equipment – Pedestrian controlled lawn aerators and scarifiers – Safety

EN ISO 12100-1, Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology

EN ISO 12100-2, Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles

EN 60320-2-3, Appliance couplers for household and similar general purposes - Appliance couplers with a degree of protection higher than IPX0

## 3 Definitions

This clause of Part 1 is applicable except as follows.

### 3.1.9 *Replacement:*

#### **normal operation**

operation of the machine under the following conditions: the machine is operated at rated voltage with the load necessary to attain rated power input

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-