

BS EN 50636-2-94:2014



BSI Standards Publication

# Household and similar electrical appliances — Safety

Part 2-94: Particular requirements  
for scissors type grass shears

**bsi.**

...making excellence a habit.™

### National foreword

This British Standard is the UK implementation of EN 50636-2-94:2014. It supersedes BS 2769-2.14:1992, which will be withdrawn on 30 September 2016.

The UK participation in its preparation was entrusted to Technical Committee CPL/116, Safety of motor-operated electric tools.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014.

Published by BSI Standards Limited 2014

ISBN 978 0 580 61731 7

ICS 25.140.20; 65.060.80

### Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2014.

### Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

---

EUROPEAN STANDARD

**EN 50636-2-94**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2014

ICS 65.060.70

English Version

## Household and similar electrical appliances - Safety - Part 2-94: Particular requirements for scissors type grass shears

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-94: Règles particulières pour les coupe-gazon de  
type ciseaux

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-94: Besondere Anforderungen für  
Grasscheren mit Scherblättern

This European Standard was approved by CENELEC on 2013-09-30. 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**

## Contents

Foreword.....	4
Introduction.....	6
1 Scope .....	7
2 Normative references .....	7
3 Terms and definitions .....	8
4 General requirement .....	9
5 General conditions for the tests .....	9
6 Classification .....	9
7 Marking and instructions .....	10
8 Protection against access to live parts .....	12
9 Starting of motor-operated appliances .....	13
10 Power input and current .....	13
11 Heating .....	13
12 Void .....	13
13 Leakage current and electric strength at operating temperature .....	13
14 Transient overvoltages .....	13
15 Moisture resistance .....	13
16 Leakage current and electric strength.....	13
17 Overload protection of transformers and associated circuits .....	13
18 Endurance .....	14
19 Abnormal operation .....	14
20 Stability and mechanical hazards.....	14
21 Mechanical strength .....	16
22 Construction .....	17
23 Internal wiring .....	19
24 Components .....	19
25 Supply connection and external flexible cords .....	19
26 Terminals for external conductors .....	20
27 Provision for earthing .....	20
28 Screws and connections .....	20
29 Clearances, creepage distances and solid insulation .....	20
30 Resistance to heat and fire.....	21
31 Resistance to rusting.....	21
32 Radiation, toxicity and similar hazards .....	21
Annexes.....	28
Annex B (normative) Appliances powered by rechargeable batteries .....	28
Annex AA (normative) Safety signs and symbols which may be used on scissors type grass shears.....	30
Annex BB (normative) Vibration .....	32
Annex CC (normative) Noise test code engineering method (grade 2) .....	36

Annex DD (informative) Example of a material and construction fulfilling the requirements for an artificial surface (see CC.4.1).....	42
Annex EE (informative) Safety instructions.....	44
Annex FF (normative) Test enclosure – Base.....	46
Annex ZZ (informative) Coverage of Essential Requirements of EU Directives.....	49
Bibliography.....	50

## Figures

Figure 101 – Parts of cutting means (see 3.103, 3.104) – Cutting width (see 3.101).....	22
Figure 102 – Examples of grass shears (see 3.102).....	22
Figure 103 – Cutter blade extension (see 20.101).....	23
Figure 104 – Examples of compliance/non-compliance and measurement method for hand protection (see 20.102).....	24
Figure 105 – Example showing the layout for the strength test and a possible orientation for the machine (see 21.102).....	25
Figure 106 – Cutting means strength test (see 21.103).....	26
Figure 107 – Device for impact test (see 22.35).....	27
Figure AA.1 – “Read operator’s manual”.....	30
Figure AA.2 – “Do not expose to rain”.....	30
Figure AA.3 – “Warning: cutting means continues to run after the motor is switched off”.....	31
Figure AA.4 – Mains operated machines – “Disconnect the mains plug if the cord becomes damaged or entangled”.....	31
Figure AA.5 – “Keep bystanders away”.....	31
Figure BB.1 – Examples of transducer location/orientation (handle).....	35
Figure CC.1 – Microphone positions on the hemisphere (see Table CC.1).....	37
Figure DD.1 – Sketch of the measurement surface covered with an artificial surface (not to scale)....	43
Figure FF.1 – Nail plan of base.....	47
Figure FF.2 – Base detail.....	48

## Tables

Table CC.1 – Coordinates of microphone-positions.....	38
Table CC.2 – Absorption coefficients.....	39

## Foreword

This document (EN 50636-2-94:2014) has been prepared by CLC/TC 116 "Safety 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) 2014-12-20
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-09-30

EN 50636-2-94:2014 includes the following significant technical changes:

- alignment to the European Machinery Directive 2006/42/EC;
- alignment to EN 60335-1:2012.

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

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

This document supplements or modifies the corresponding clauses in Part 1, so as to convert that publication into the European Standard "*Safety requirements for **scissors type grass shears***".

Where a particular subclause of Part 1 is not mentioned in this document, 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 Part 2 provides one means of conforming to the specified essential health and safety requirements of the Directive.

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

Other harmonised standards referred to in this European Standard are listed in Annex ZC of Part 1 and this document. 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.

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.

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.

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

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

## **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 electric powered **hand-held scissors type grass shears** with a maximum cutting width of 200 mm designed primarily for cutting grass, their **rated voltage** being not more than 250 V for a.c. or 75 V d.c.

In this European Standard the term “machine” means “electric powered scissors type grass shear”.

This European Standard does not apply to hedge trimmers as covered by EN 60745–2–15.

Requirements for chargers are covered by EN 60335-2-29:2004.

Requirements for batteries are covered by EN 62133:2003.

EMC and environmental aspects except for noise have not been considered in this European Standard.

This European Standard deals with all the significant hazards presented by **hand-held scissors type grass shears** when they are used as intended and under conditions of misuse which are reasonably foreseeable.

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

EN 12449:1999 <sup>1)</sup>, *Copper and copper alloys – Seamless, round tubes for general purposes*

EN 28662-1:1992, *Hand-held portable power tools – Measurement of vibrations at the handle – Part 1: General* (ISO 8662-1:1988)

EN 60320 (all parts), *Appliance couplers for household and similar general purposes* (IEC 60320 (all parts))

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

EN 62233:2008, *Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure* (IEC 62233:2005, mod.)

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

EN ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering method for an essentially free field over a reflecting plane* (ISO 3744:2010)

EN ISO 4871:2009, *Acoustics – Declaration and verification of noise emission values of machinery and equipment* (ISO 4871:1996)

---

1) Superseded by EN 12449:2012.