



# SLOVENSKI STANDARD SIST EN 50144-2-15:2002

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Safety of hand-held electric motor operated tools -- Part 2-15: Particular requirements for hedge trimmers

Sicherheit handgeführter motorbetriebener Elektrowerkzeuge -- Teil 2-15: Besondere Anforderungen für Heckenscheren

Sécurité des outils électroportatifs à moteur -- Partie 2-15: Règles particulières pour les taille-haies

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**ICS:**

25.140.20	Ò\^ dã } æ! i[ åbæ	Electric tools
65.060.70	Vrtnarska oprema	Horticultural equipment

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EUROPEAN STANDARD

**EN 50144-2-15**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2001

ICS 25.140.20 ; 65.060.80

Supersedes EN 50144-2-15:1997

English version

**Safety of hand-held electric motor operated tools  
Part 2-15: Particular requirements for hedge trimmers**

Sécurité des outils électroportatifs à moteur  
Partie 2-15: Règles particulières pour les taille-  
haies

Sicherheit handgeführter motorbetriebener  
Elektrowerkzeuge  
Teil 2-15: Besondere Anforderungen für  
Heckenscheren

This European Standard was approved by CENELEC on 2000-08-01. 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.

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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.

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**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

This European Standard has been prepared by the Technical Committee CENELEC TC 61F, Hand-held and transportable electric motor operated tools. The text of the draft was submitted to the Unique Acceptance Procedure (UAP) in July 1994 and was approved by CENELEC as EN 50144-2-15 on 1995-03-06.

A draft for an amendment was submitted to UAP in August 1999 and was approved by CENELEC on 2000-08-01 for inclusion into a second edition of EN 50144-2-15.

This European Standard supersedes EN 50144-2-15:1997

The following dates were fixed:

- latest date by which the EN has to be implemented at a national level by publication of an identical national standard or by endorsement (dop) 2001-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-08-01

This standard is divided into two parts:

Part 1: General requirements which are common to most hand-held electric motor operated tools (for the purpose of this standard referred to simply as tools).

Part 2: Requirements for particular types of tool which either supplement or modify the requirements given in Part 1 to account for the particular hazards and characteristics of these specific tools.

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

Compliance with the clauses of Part 1 together with this Part 2 provides one means of conforming with the essential health and safety requirements of the Directive.

For noise and vibration this standard covers the requirements for their measurement, the provisions of information arising from these measurements and the provisions of information about the personal protective equipment required. Specific requirements for the reduction of the risk arising from noise and vibration through the design of the tool are not given as this reflects the current state of the art.

As with any standard, technical progress will be kept under review so that any developments can be taken into account.

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

This standard follows the overall requirements of EN 292-1 and EN 292-2.

Subclauses, tables and figures which are additional to those in Part 1 are numbered starting from 101.

NOTE In this European Standard the following print types are used:

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

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## 1 Scope

This clause of Part 1 is applicable except as follows:

### 1.1 Addition:

This standard applies to hedge trimmers which are designed for use by one operator, for trimming hedges and bushes utilizing one or more linear reciprocating cutter blades.

This standard is not applicable to hedge trimmers with a rotating blade or hedge trimmers powered by back-pack or other external source.

This standard does not give requirements for the design of the tool to reduce the risks arising from noise and vibration.

## 2 Definitions

This clause of Part 1 is applicable except as follows:

### 2.2.18 Replacement:

2.2.18 **normal load:** Continuous operation with no external load applied, the cutting device being adjusted as for normal use. The normal load is based on the rated voltage or upper limit of the rated voltage range.

### Addition:

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2.2.101 **blade tooth:** The part of the cutter blade which is sharpened to perform the shearing action. See Figure 101.

2.2.102 **cutter blade:** The part of the cutting device having blade teeth which cut the hedge by shearing action either against other blade teeth or against an unsharpened shear plate. See Figure 101.

2.2.103 **cutting device:** The part of the assembly of cutter blade and shear plate or the cutter blade together with any supporting part, which performs the cutting action. See Figure 101. This may be either single or double sided.

2.2.104 **cutting length:** The effective cutting length of the cutting device measured from the inside edge of the first blade tooth or shear plate tooth to the inside edge of the last blade tooth or shear plate tooth, see Figure 102. Where both blades move the measurements shall be taken when the first and last teeth are furthest apart.

2.2.105 **front handle:** A handle located at or towards the cutting device. See Figure 103.

2.2.106 **rear handle:** A handle located furthest from the cutting device. See Figure 103.

2.2.107 **blade control:** A device activated by the operator's hand or fingers for controlling the cutter blade movement.

2.2.108 **blunt extension:** A blunt part of the cutting device or a part of an unsharpened plate fitted to the cutting device which extends beyond the blade teeth. See Figure 101.

2.2.109 **run-down time:** The elapsed time from the release of the blade control until the cutter blade stops.

2.2.110 **maximum speed:** The highest motor speed obtainable when adjusted in accordance with the manufacturer's specifications and/or instructions and with the cutting device engaged.

### 3 General requirements

This clause of Part 1 is applicable.

### 4 General conditions for the tests

This clause of Part 1 is applicable except as follows:

#### 4.3 Addition:

For the test of subclause 18.104 additional samples may be provided.

### 5 Rating

This clause of Part 1 is applicable.

### 6 Classification

This clause of Part 1 is applicable.

### 7 Marking and information for use

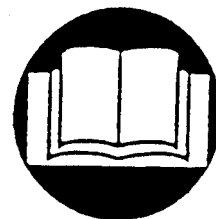
This clause of Part 1 is applicable except as follows:

#### 7.1 Addition:

Hedge trimmers shall be marked with pictograms/symbols or safety recommendations/warnings of the following substance. This requirement also applies to hedge trimmers or accessories which can be fitted to multi-purpose tools.

Safety recommendations and warnings shall be written in the official language, or one of the official languages, of the country in which they are to be sold.

- Read the instructions

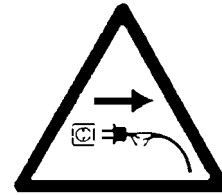


- Do not expose to rain

NOTE: For splash-proof or watertight hedge trimmers this warning need not be marked on the electric tool itself.



- Remove plug from the mains immediately if cable is damaged or cut.



Marking giving cautionary information shall be located as close as practicable to the relevant hazard.

Applicable pictograms/symbols shall be in colours contrasting with the background. If the marking is cast, embossed or stamped colours are not required.

#### 7.13.2 Addition:

The instruction sheet shall include, as a minimum, information under the following headings:

- 1) Identification and nomenclature of parts involved in safety provisions.
- 2) Assembly instructions (if the tool is supplied with parts to be assembled by the user).
- 3) Meaning of the pictograms/symbols used on the tool.
- 4) Operating instructions including at least the following:
  - starting and stopping with reference to safety;
  - supply cable, extension cord, type of plug and socket and recommendation for the use of a residual current device;
  - need for the person using the tool to achieve a stable position;
  - warning about damp operating conditions;
  - regular maintenance, replacement, sharpening;
  - use of gloves.
- 5) Holding the tool in use, distance from the cutting zone, access to work, cutting height.
- 6) In addition, the substance of the following shall be given:
  - always ensure all handles and guards are fitted when using the tool.
  - never attempt to use an incomplete machine or one fitted with an unauthorised modification;
  - before cleaning the hedge trimmer switch off the tool and remove the plug from the mains supply;
  - check cutting blades regularly for damage, and if damaged repair immediately;
  - keep cable away from the cutting area;
  - check cable for damage before starting work and replace if necessary;
  - never allow children to use the tool;
  - after use the tool should be stored so that the blade is not exposed.

## 8 Protection against electric shock

This clause of Part 1 is applicable except as follows:

#### Additional subclauses:

8.101 The requirements given in this subclause apply to Class II hedgetrimmers and hedge trimmer attachments for use in conjunction with multipurpose tools.



Handles shall be constructed either of insulating material or of metal having a fixed insulating covering complying with the requirements for supplementary insulation.

Handles shall be so designed that when held as in normal use the risk of any part of a hand of the user coming into contact with metal parts which are in electrical contact with the shear blades is prevented.

*Compliance is checked by inspection and by the tests of 15.3, applied to the handles and carried out after the test specified in 19.3 .*

Moreover, the covering of insulation material of metal handles shall comply with the following test:

*A sample of the covered part is conditioned at a temperature of 70 °C ± 2 °C for 7 days (168 h). After conditioning, the sample is allowed to attain approximately room temperature.*

*The covering shall not shrink to the extent that the required insulation is no longer given. Neither shall the covering peel off such that it may move longitudinally.*

*The sample is then maintained for 4 h at temperature of –10 °C ± 2 °C. While still at this temperature, the sample is subjected, in a device as shown in Figure 104, to an impact load applied by means of a weight “A” having a mass of 300 g and falling from a height of 350 mm onto a chisel “B” of hardened steel, the edge of which is placed on the sample as shown in Figure 104.*

*One impact is applied to each place where the covering is likely to be weak or is likely to be damaged in normal use, the distance between the points of impact being at least 10 mm.*

*After this test, the covering shall not have peeled off and an electric strength test shall be carried out between metal parts and metal foil wrapped round the covering of the handle shaft. The test voltage of 2500 V is applied for 1 min. During this test, no flashover or breakdown shall occur.*

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## 9 Starting

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## 10 Input and current

This clause of Part 1 is applicable except as follows:

10.1 This subclause is not applicable.

## 11 Heating

This clause of Part 1 is applicable except as follows:

11.5 *Addition:*

The hedge trimmer is operated for 30 min.

## 12 Leakage current

This clause of Part 1 is applicable.

### 13 Environmental requirements

This clause of Part 1 is applicable except as follows:

#### 13.2.3 *Replacement:*

Hedge trimmers are tested at no-load.

Three consecutive tests shall be carried out and the result of the test  $L_{wa}$  shall be the arithmetic mean, rounded off to the nearest decibel, of the three tests.

The tool is suspended in such a way as to correspond to normal use.

#### 13.2.4 *Addition:*

The cutting device shall be horizontal.

#### 13.3.3 *Replacement of paragraph 1:*

Measurements are made in the 'Z' direction only.

#### 13.3.7 *Replacement of paragraphs 1 and 3:*

Hedge trimmers are tested at no-load the tool being held as in normal use with the cutting device horizontal.

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### 14 Moisture resistance (standards.iteh.ai)

This clause of Part 1 is applicable.

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### 15 Insulation resistance and electric strength

This clause of Part 1 is applicable.

### 16 Endurance

This clause of Part 1 is applicable except as follows:

#### 16.2 *Addition:*

During the test, the cutting device is lubricated, as necessary, to avoid undue friction.

### 17 Abnormal operation

This clause of Part 1 is applicable.

## 18 Mechanical hazards

This clause of Part 1 is applicable except as follows:

*Additional subclauses:*

### 18.101 Handles

For the number of handles see Table 101.

Handles shall be designed in such a way that each one can be grasped with one hand. The gripping surface shall be at least 100 mm long. On bail or closed handles (U-shaped handles) this dimension is related to the inner width of the gripping surface. On straight handles it is the complete length between the housing and the end of the handle. There shall be a minimum radial clearance of 25 mm around the gripping length.

If a part containing the motor complies with the dimensions above for a handle, it may be considered as a handle.

The gripping length of a bail or closed handle comprises any length that is straight or curved at a radius greater than 100 mm together with any bend radius up to 10 mm at either or both ends of the gripping surface. If a straight handle is supported centrally (i.e. T type) the gripping length is calculated as follows:

- a) for handles with a periphery (not including the support) less than 80 mm the gripping length is the sum of the two parts either side of the support;
- b) for handles with a periphery (not including the support) of 80 mm or more the gripping length is the complete length from end to end.

If applicable, the part of the handle containing the blade control actuator is counted as part of the handle gripping length. Finger grip or similar superimposed profiles shall not affect the method of calculating handle gripping length.

Handles shall be positively locked in position. If they are adjustable in different positions it shall not be possible to lock them in a position not complying with the requirements of this standard.

For handles which are adjustable without the use of a tool it shall not be possible to alter the handle position when the cutting device is in operation. When altering the handle position the cutting device shall be inoperable.

*Compliance is checked by inspection and measurement.*

### 18.102 Hand protection

18.102.1 From any handle it shall not be possible to touch the moving cutter blade with fingers spread out.

*Compliance is checked by the test of 18.102.2.*

18.102.2 The requirements are met if all handles are located so that the test distance from the cutter blade to the side furthest from the cutter blade of any handle is not less than 120 mm. The distance is measured along the shortest path from the side of the handle furthest from the cutter blade to the nearest cutting edge of the cutter blade (see Figure 105). If there is a guard the distance is measured from the furthest side of the handle to the guard and from there to the nearest cutting edge of the cutter blade (see Figure 105).