

**Käeshoitavad mootorajamiga elektrilised tööriistad.
Ohutus. Osa 2-22: Erinõuded lõikuritele**

Hand-held motor-operated electric tools - Safety - Part 2-22:
Particular requirements for cut-off machines

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60745-2-22:2011 sisaldab Euroopa standardi EN 60745-2-22:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.06.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 10.06.2011.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60745-2-22:2011 consists of the English text of the European standard EN 60745-2-22:2011.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.06.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 10.06.2011.

The standard is available from Estonian standardisation organisation.

ICS 25.140.20

Standardite reprodutseerimis- ja levitamise õigus kuulub Eesti Standardikeskusele

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**Hand-held motor-operated electric tools -
Safety -
Part 2-22: Particular requirements for cut-off machines
(IEC 60745-2-22:2011, modified)**

Outils électroportatifs à moteur -
Sécurité -
Partie 2-22: Règles particulières pour les
tronçonneuses à disques
(CEI 60745-2-22:2011, modifiée)

Handgeführte motorbetriebene
Elektrowerkzeuge -
Sicherheit -
Teil 2-22: Besondere Anforderungen für
Trennschleifmaschinen
(IEC 60745-2-22:2011, modifiziert)

This European Standard was approved by CENELEC on 2011-04-18. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

The text of document 116/57/FDIS, future edition 1 of IEC 60745-2-22, prepared by IEC TC 116, Safety of hand-held motor-operated electric tools, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, prepared by the Technical Committee CENELEC TC 116, Safety of motor-operated electric tools, was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 60745-2-22 on 2011-04-18.

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) 2012-04-18
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-04-18

This European 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) which could come within the scope of this standard;

Part 2: 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 draft European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2006/42/EC. See Annex ZZ.

Compliance with the clauses of Part 1 together with this Part 2-22 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

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

This European Standard follows the overall requirements of EN ISO 12100-1 and EN ISO 12100-2.

This Part 2-22 is to be used in conjunction with EN 60745-1:2009. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

Subclauses and figures which are additional to those in Part 1 are numbered starting from 101; additional annexes are lettered AA, BB, etc.

Subclauses, tables and figures which are additional to those in IEC 60745-2-22 are prefixed "Z".

Annexes ZA and ZZ have been added by CENELEC.

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

- Requirements: in roman type;
- *Test specification: in italic type;*
- Notes: in smaller roman type.

Endorsement notice

The text of the International Standard IEC 60745-2-22:2011 was approved by CENELEC as a European Standard with agreed common modifications as given below.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60745-2-3 NOTE Harmonized as EN 60745-2-3.

IEC 60745-2-5 NOTE Harmonized as EN 60745-2-5.

COMMON MODIFICATIONS

2 Normative references

Add the following normative reference:

EN 1339:2003, *Concrete paving flags - Requirements and test methods*

6 Void

Replace by:

6 Environmental requirements

This clause of Part 1 is applicable except as follows:

6.1.2.4 Modification:

Cut-off machines are held and used as specified in 6.1.2.5 and described in Table Z101. The concrete block, its support and the tool shall be so oriented that the geometric centre of the tool is 1 m above the reflecting plane (dimension "y" in Figure Z102). The centre of the concrete block shall be located under the top microphone.

6.1.2.5 Modification:

Cut-off machines are tested under load observing the conditions shown in Table Z101.

Table Z101 — Operating conditions for cut-off machines

Material and set up	<p>Concrete slab with minimum dimensions of 400 mm x 600 mm and a thickness of (50 ± 5) mm according to EN 1339. The concrete slab shall be stored under dry conditions for at least 28 days and have the following specifications in accordance with the following clauses of EN 1339: Class 3 (5.3.3.2), Class 4 (5.3.4.2), Class 70 (5.3.6.2).</p> <p>The concrete slab is rigidly fixed on a supporting concrete block with the minimum dimensions of 800 mm x 500 mm x 200 mm e.g. by means of clamps.</p> <p>At the beginning of the test the end of the concrete slab shall project 200 mm from the concrete block and shall be readjusted at least after each series of tests.</p> <p>Unless the machine is intended for operation with water supply, the dust shall be collected during operation using a vacuum system. This shall be in place and fitted correctly. The hose for dust extraction shall be connected and have adequate length to eliminate the influence of the noise and vibration from the vacuum system on the tool measurements.</p> <p>See Figures Z102 and Z103.</p>
Orientation	<p>Cutting the concrete slab across the 400 mm width with the entire surface of the guide plate or all guide rollers being in contact with the concrete slab.</p> <p>The cut shall not be less than 20 mm from the edge of the slab.</p>
Tool bit/settings	<p>New wheel(s) as specified for cutting concrete. If the tool is intended to be used with more than one wheel, then maximum number of wheels shall be fitted and set to the maximum width of cut.</p> <p>Speed setting devices, if any, shall be adjusted to the setting specified for cutting-off concrete.</p> <p>The depth gauge, if any, shall be adjusted to a cutting depth equal to the thickness of the slab(s) plus 40 mm.</p> <p>If no depth gauge is provided, the cut shall be made with a cutting depth of the slab(s) plus approximately 10 mm to 40 mm.</p> <p>If the maximum cutting depth of the cut-off machine is less than the values above, the test is conducted at maximum cutting depth.</p>
Feed force	<p>The forces applied to the tool shall be sufficient to obtain rated input/current $\pm 10\%$ during cutting, applying approximately equal forces to both handles. If either the input/current above cannot be achieved or the test cycle is less than 5 s, the test shall be conducted on two slabs stacked together.</p> <p>Excessive grip forces shall be avoided.</p>
Test cycle	<p>One cut across the 400 mm width of the concrete slab.</p> <p>Measurement starts when the wheel enters the concrete slab and finishes when the wheel leaves the slab.</p>

6.2 Vibration

6.2.4.2 Location of the measurement

Addition:

Figure Z101 shows the positions on the handles of different types of cut-off machines.

6.2.6.3 Operating conditions

Modification:

Cut-off machines intended to cut materials such as concrete, brick and masonry are tested under load observing the conditions shown in Table Z101. The top of the slab shall have a distance to the ground of maximum 450 mm (dimension "x" in Figure Z102).

6.2.7.2 Declaration of the vibration emission value

Addition:

The vibration emission value a_h of the handle with the highest emission and the uncertainty K shall be declared.

8 Marking and instructions

8.12.2 a) *Add the following items:*

Z101) Instruction on the correct use of the dust collection system unless the machine is intended for operation with a liquid system

Z102) Instruction to wear a dust mask unless the machine is intended for operation with a liquid system

Z103) Instruction to always wear hearing protection

21 Construction

Add the following new subclause:

21.Z1 *Addition:*

Cut-off machines not intended to be operated with a liquid system are considered to be tools where a considerable amount of dust is produced.

Add the following new figures:

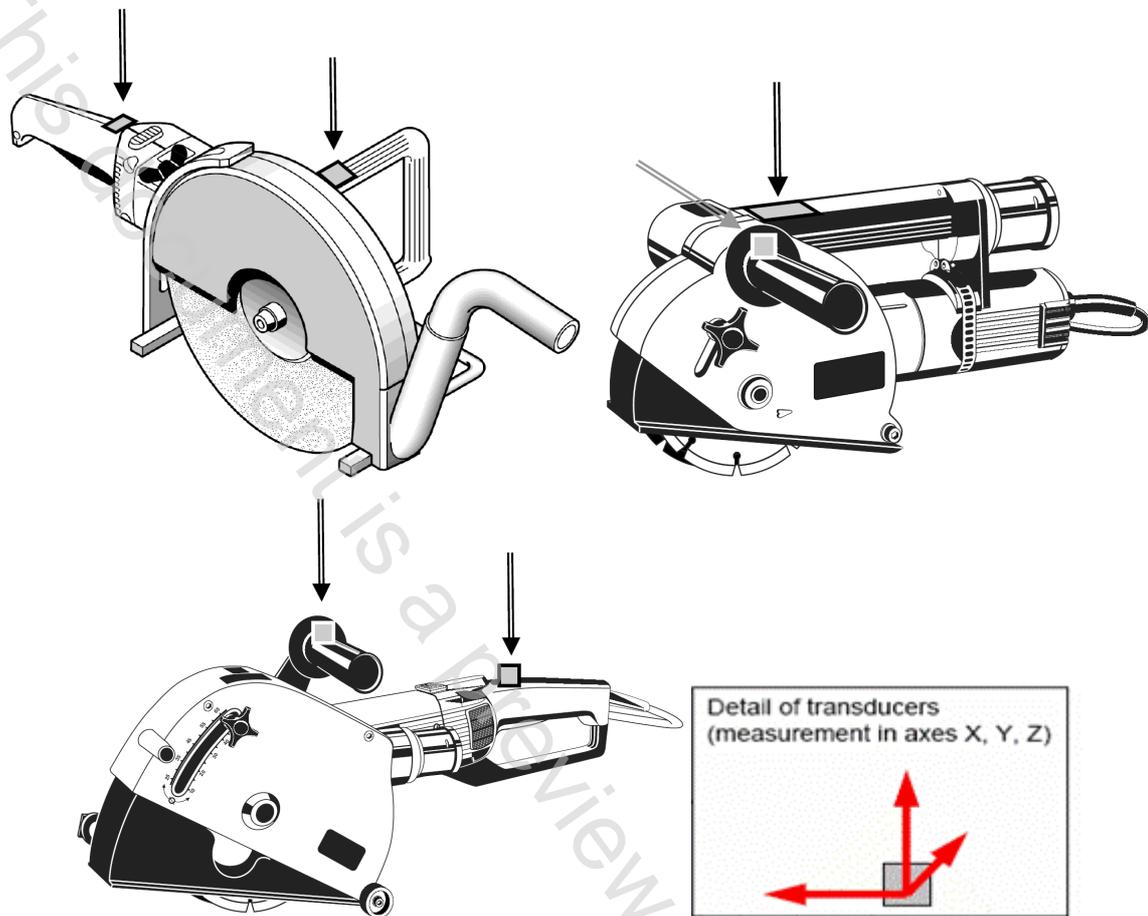
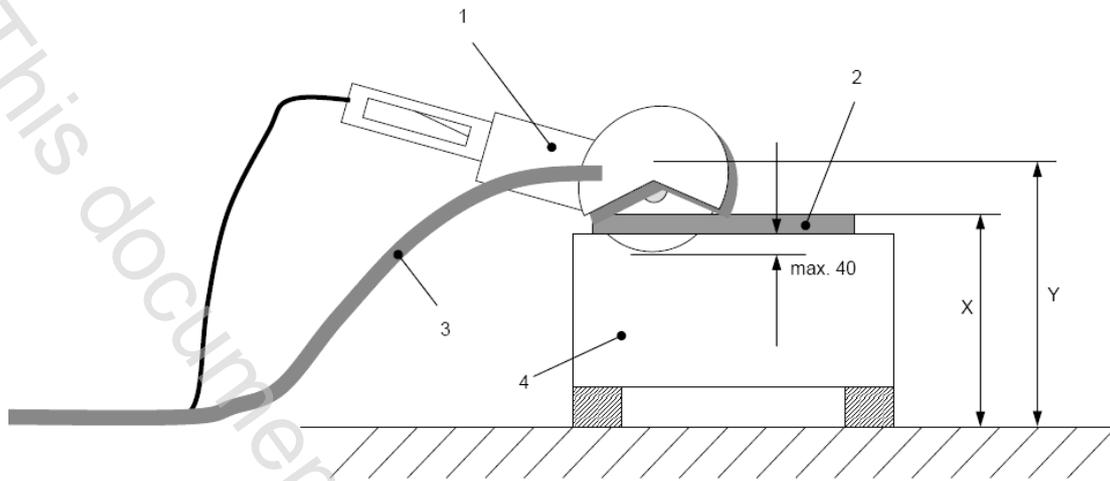


Figure Z101 - Positions of transducers for various kinds of cut-off-machines

Dimensions in mm

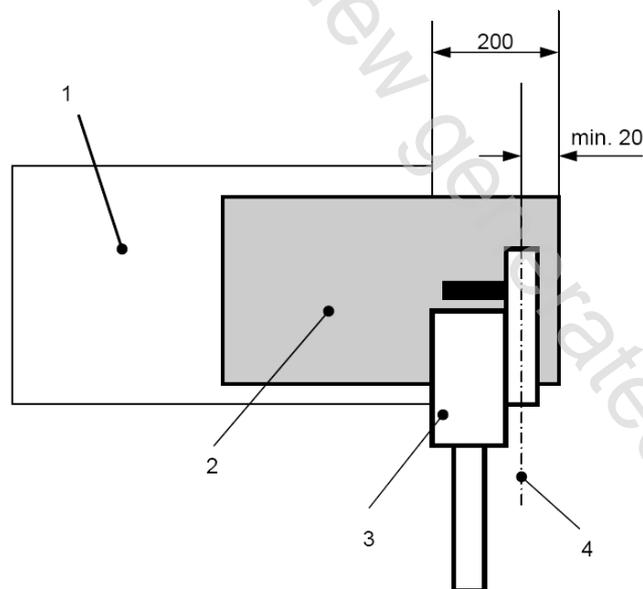


Key

- 1 cut-off machine
- 2 workpiece (concrete slab)
- 3 hose for dust extraction
- 4 supporting concrete block

Figure Z102 - Test set up (side view)

Dimensions in mm



Key

- 1 supporting concrete block
- 2 workpiece (concrete slab)
- 3 cut-off machine
- 4 line of cut

Figure Z103 - Test set up (top view)

Add the following annexes.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
EN 1339	2003	Concrete paving flags - Requirements and test methods	-	-
ISO 603-15	1999	Bonded abrasive products - Dimensions - Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines	-	-
ISO 603-16	1999	Bonded abrasive products - Dimensions - Part 16: Grinding wheels for cutting-off on hand held power tools	-	-

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in EC Directive 2006/42/EC (Machinery Directive).

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 General requirements.....	7
5 General conditions for the tests	8
6 Void.....	8
7 Classification.....	8
8 Marking and instructions.....	8
9 Protection against access to live parts.....	11
10 Starting	11
11 Input and current	11
12 Heating	11
13 Leakage current	12
14 Moisture resistance	12
15 Electric strength	12
16 Overload protection of transformers and associated circuits	12
17 Endurance.....	12
18 Abnormal operation	12
19 Mechanical hazards.....	12
20 Mechanical strength	16
21 Construction.....	18
22 Internal wiring.....	18
23 Components	19
24 Supply connection and external flexible cords	19
25 Terminals for external conductors.....	19
26 Provision for earthing	19
27 Screws and connections.....	19
28 Creepage distances, clearances and distances through insulation.....	19
29 Resistance to heat, fire and tracking.....	19
30 Resistance to rusting.....	19
31 Radiation, toxicity and similar hazards.....	19
Annexes	24
Annex K (normative) Battery tools and battery packs	24
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources.....	24
Bibliography.....	25
Figure 101 – Examples of gaps and rake angles	20
Figure 102 – Typical guard designs	21
Figure 103 – Principal dimensions of flanges	22
Figure 104 – Guard strength test: explanation of guard positions	22

Figure 105 – Guard strength test: preparation of the cut-off machine	23
Figure 106 – Guard strength test box	23
Table 101 – Torques for testing flanges	15
Table 102 – Guard thickness for diamond wheels	16

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HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-22: Particular requirements for cut-off machines

1 Scope

This clause of Part 1 is applicable as follows:

Addition:

This standard applies to **cut-off machines** fitted with

- one **bonded reinforced wheel** of Type 41 or Type 42, or
- one or more **diamond cut-off wheels** with the peripheral gaps, if any, not exceeding 10 mm

and with

- a **rated speed** not exceeding a peripheral speed of the wheel of 100 m/s at **rated capacity** and
- a rated wheel capacity range of 55 mm to 410 mm.

These machines are intended to cut materials such as metals, concrete, masonry, glass and tile.

This standard does not apply to:

- grinders, sanders, or polishers, even if they can be converted to a **cut-off machine**, which are covered by IEC 60745-2-3;
- circular saws which are covered by IEC 60745-2-5.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

ISO 603-15:1999, *Bonded abrasive products – Dimensions – Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines*

ISO 603-16:1999, *Bonded abrasive products – Dimensions – Part 16: Grinding wheels for cutting-off on hand-held power tools*

3 Terms and definitions

This clause of Part 1 is applicable, except as follows:

3.101 blotter

thin piece of an easily compressible material, between the abrasive product and **flange**