
**Električna ročna orodja - Varnost - 2-22. del: Posebne zahteve za rezalnike -
Dopolnilo A11**

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

Handgeführte motorbetriebene Elektrowerkzeuge - Sicherheit - Teil 2-22: Besondere
Anforderungen für Trennschleifmaschinen

Outils électroportatifs à moteur - Sécurité - Partie 2-22: Règles particulières pour les
tronçonneuses à disques

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ICS:

25.100.01	Rezalna orodja na splošno	Cutting tools in general
25.140.20	Električna orodja	Electric tools

SIST EN 60745-2-22:2011/A11:2014 **en**

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EUROPEAN STANDARD
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Safety -
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SIST EN 60745-2-22:2011/A11:2014

This amendment A11 modifies the European Standard EN 60745-2-22:2011; it was approved by CENELEC on 2012-12-17. 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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CENELEC

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

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Foreword

This document (EN 60745-2-22:2011/A11:2013) 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 (dop) 2013-12-17
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2015-12-17
this document have to be withdrawn

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60745-2-22:2011 are prefixed "Z".

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 2006/42/EC.

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3 Terms and definitions

Add the following definition:

3.Z101

wall chaser

tool driving a rotating spindle, with a **guide plate** or **guide roller** or similar means, on which one or more **diamond wheels** are mounted and used for non-through cutting operations by peripheral grinding

6 Environmental requirements

Replace the existing 6.1.2.4 and 6.1.2.5 by the following:

6.1.2.4 *Modification:*

Cut-off machines and wall chasers are held and used as specified in 6.1.2.5.

For cut-off machines and wall chasers, the concrete block, its support and the tool shall be so arranged that the geometric centre of the tool is 1 m above the reflecting plane, see Figure Z102 (dimension “y”) and Figure Z104.

For cut-off machines, the centre of the 200 mm projecting end of the concrete slab shall be located under the top microphone.

For wall chasers the centre of the concrete block shall be located under the top microphone.

6.1.2.5 *Modification:*

<https://standards.iteh.ai/catalog/standards/sist/b20b7574-6046-427c-97d4-e9d6d34109d9/sist-en-60745-2-22-2011-a11-2014>

Cut-off machines are tested under load observing the conditions shown in Table Z101. Wall chasers are tested under load observing the conditions shown in Table Z102.

Table Z101 — Noise and vibrations test 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.</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>Cut the concrete slab across the 400 mm width. During cutting the entire surface of the guide plate or all guide rollers shall be 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 at the beginning of the entire test, to be used by all three operators.</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.</p> <p>If either the input/current above cannot be achieved or the test cycle is less than 15 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>The noise is measured during 15 s when the tool is in the middle of the concrete slab.</p> <p>For vibration, the measurement starts when the wheel enters the concrete slab and finishes when the wheel leaves the slab.</p>

Table Z102 — Noise test conditions for wall chasers

Material and set up	<p>Concrete block according to Table Z103 with the minimum dimensions of 800 mm x 500 mm x 200 mm fixed rigidly in a horizontal position on a ground support (e.g. by means of clamps), see Figure Z104. The ground support shall be large and solid enough to carry the test block and to ensure the stability of the workpiece fixed to it during the test.</p> <p>The smooth side of the concrete block shall be oriented to the top.</p> <p>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 from the vacuum system on the tool measurements.</p>
Orientation	<p>Cut horizontal slots across the 500 mm width of the concrete block's top surface. During cutting the entire surface of the guide plate or all guide rollers shall be in contact with the surface.</p> <p>The cuts shall be conducted in the central area of the concrete block.</p> <p>Cutting in an existing slot shall be avoided.</p>
Tool bit/settings	<p>New wheel(s) as specified for cutting concrete at the beginning of the entire test, to be used by all three operators.</p> <p>The width and depth setting of the tool shall be according to Table Z104.</p> <p>Speed setting devices, if any, shall be adjusted as specified for chasing concrete.</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. Excessive grip forces shall be avoided.</p>
Test cycle	<p>One horizontal cut across the 500 mm width of the concrete block.</p> <p>Measurement is taken during 15 s when the tool is in the middle of the block.</p>

Table Z103 — Concrete formulation (per cubic metre)

Cement	Water	Aggregate ^a	
330 kg ^b	183 l ^b	1 844 kg	
		Particle size	Fraction %
		0 mm to 2 mm	38 \pm 3
		0 mm to 8 mm	50 \pm 5
		0 mm to 16 mm	80 \pm 5
		0 mm to 32 mm	100
Compressive strength after 28 days shall be 40 N/mm ² .			
^a Very hard aggregates such as flint or granite and very soft aggregates such as limestone shall not be used.			
^b The water/cement mass ratio shall be 0,55 \pm 0,02 (the mass tolerance of cement and water is + 10 % to enable the concrete manufacturer to ensure compressive strength with local cement).			

Table Z104 — Categories of wall chasers according to the cutting depth of the tool

Dimensions in millimetres				
Category of cutting depth	< 20	≥ 20 ... < 30	≥ 30 ... < 45	≥ 45
Depth setting	15 ^a	20	30	45
Width setting	15 ^a	20	30	45
^a Or maximum cutting depth and width, if the maximum possible setting is less than the proposed value.				

Replace the existing 6.2 by the following:

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. The positions on wall chasers are similar to those of cut-off machines.

6.2.6.3 Operating conditions

Modification:

Cut-off machines are tested under load observing the conditions specified in 6.1.2.5. The concrete block, its support and the tool shall be so arranged that the height “x” in Figure Z102 is 450 mm.

Wall chasers are tested under load observing the conditions shown in Table Z105.

Table Z105 — Vibration test conditions for wall chasers

Material and set up	<p>Concrete block according to Table Z103 with the minimum dimensions of 800 mm x 500 mm x 200 mm fixed rigidly in a vertical position on a ground support (e.g. by means of clamps), as illustrated in Figure Z105. The ground support shall be large and solid enough to carry the test block and to ensure the stability of the workpiece fixed to it during the test.</p> <p>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 vibration from the vacuum system on the tool measurements.</p>
Orientation	<p>The work is done on a smooth surface of the concrete block's vertical side.</p> <p>Cut horizontal slots across the 500 mm width of the concrete block. During cutting the entire surface of the guide plate or all guide rollers shall be in contact with the surface.</p> <p>The cut shall not be less than 20 mm from the top of the concrete block.</p> <p>Cutting in an existing slot shall be avoided.</p>
Tool bit/settings	<p>New wheel(s) as specified for cutting concrete at the beginning of the entire test, to be used by all three operators.</p> <p>The width and depth setting of the tool shall be according to Table Z104.</p> <p>Speed setting devices, if any, shall be adjusted as specified for chasing concrete.</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. Excessive grip forces shall be avoided.</p>
Test cycle	<p>One horizontal cut across the 500 mm width of the concrete block.</p> <p>Measurement starts when the wheel enters the concrete block and finishes when the wheel leaves the block.</p>

6.2.7.2 Declaration of the vibration total value

Addition:

The vibration total 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) Replace the existing items Z101 to Z103 by the following:

- 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.