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Hand-held motor-operated electric tools - Safety -- Part 2-6: Particular requirements for hammers

Handgeführte motorbetriebene Elektrowerkzeuge - Sicherheit - Teil 2-6: Besondere Anforderungen für Hämmer

Outils électroportatifs a moteur - Sécurité - Partie 2-6: Règles particulières pour les marteaux

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[SIST EN 60745-2-6:2003/A11:2007](https://standards.iten.ai/catalog/standards/sist/12c91439-864b-4097-a9ae-972840073cd/sist-en-60745-2-6-2003-a11-2007)

Ta slovenski standard je istoveten z: **EN 60745-2-6:2003/A11:2007**

ICS:

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SIST EN 60745-2-6:2003/A11:2007 en;fr;de

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English version

**Hand-held motor-operated electric tools -
Safety -
Part 2-6: Particular requirements for hammers**

Outils électroportatifs à moteur -
Sécurité -
Partie 2-6: Règles particulières
pour les marteaux

Handgeführte motorbetriebene
Elektrowerkzeuge -
Sicherheit -
Teil 2-6: Besondere Anforderungen
für Hämmer

**iTeh STANDARD PREVIEW
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This amendment A11 modifies the European Standard EN 60745-2-6:2003; it was approved by CENELEC on 2006-10-01. 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.

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 amendment 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 amendment to the European Standard EN 60745-2-6:2003 was prepared by the Technical Committee CENELEC TC 61F, Safety of hand-held and transportable motor-operated electric tools, during its meeting held in Malta on 2005-04-14.

The text of the draft was submitted to the formal vote and was approved by CENELEC as amendment A11 to EN 60745-2-6:2003 on 2006-10-01.

This amendment enables EN 60745-2-6 to be read with EN 60745-1:2006.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2007-10-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2007-10-01

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Foreword

Replace the 6th paragraph by the following:

This 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 98/37/EC (Machinery Directive), amended by Directive 98/79/EC. See Annex ZZ.

Replace the 10th and 11th paragraph by the following:

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

This Part 2-6 is to be used in conjunction with EN 60745-1:2006. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

6 Environmental requirements

6.1.2.5.103

Replace the existing Table Z104 by the following:

Table Z104 — Noise test conditions for rotary hammers

Orientation	Drilling vertically down into a concrete block having the formulation specified in Table Z102 and having the minimum dimensions 500 mm x 500 mm and 200 mm in height and supported on resilient material. 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. The centre of the concrete block shall be located under the top microphone
Tool bit	Drill bit as recommended by the manufacturer for drilling in concrete and of the size defined in Table Z103
Feed force	The feed force applied to the tool in addition to its weight shall be just sufficient to ensure stable operation
Test cycle	Measurement starts when the drill bit has reached a depth equal to its diameter and stops when the depth has reached 80 % of its usable length or 180 mm, whichever is shorter

Remove the existing Subclause 6.2.2.4.

Add the following:

6.2.4.2 Location of measurement

Addition:

Figures Z107 and Z108 show the transducer positions for different types of hammers.

6.2.6.3 Operating conditions

Addition:

If rotary hammers have a chiselling (non rotary) function, they shall be tested in the chiselling and rotary hammer function according to 6.2.6.3.101 and 6.2.6.3.102.

During the test, an auxiliary handle (front handle) shall be mounted in a 90° angle to the machine (Figures Z107 and Z108 show the handle in 0° position).

6.2.6.3.101 Percussion hammers without rotary action (concrete breakers and picks, chiselling hammers)

For hammers without rotary action all speed setting devices shall be adjusted to the highest value.

Hammers without rotary action are tested under load in the loading device shown in Figure Z104 and described in 6.1.2.5.102, which is mounted on a concrete block having the minimum dimensions specified in Table Z104.

When using the loading device shown in Figure Z104, the force to be applied to the tool in addition to its weight shall be just sufficient to ensure stable operation. Excessive feed force shall be avoided. Vibration reducing mechanisms shall not be overloaded to allow them proper operation.

NOTE In general, stable operation is achieved by a feed force which is 1,5 times the weight of the tool but not more than 200 N.

To avoid negative effects on the measurement results, the inserted tool shall be aligned in the middle of the bushing without contact to the bushing.

In addition, hammers without rotary action are tested under “no load”, by lifting the hammer up so that its weight is totally supported by the hands of the operator whilst the inserted tool is still located in the loading device and the hammer. During the measurement, the loading device shall not exert any force to the inserted tool which could influence the measurement.

6.2.6.3.102 Rotary hammers (standards.iteh.ai)

For rotary hammers the speed setting shall be that recommended by the manufacturer for the drill bit size defined for the test for drilling in concrete.

Hammers with rotary action are tested under load as shown in Figure Z106 and in accordance with the conditions shown in Tables Z102, Z103 and Z105.

Table Z105 — Vibration test conditions for rotary hammers

Orientation	Drilling vertically down into a concrete block having the formulation specified in Table Z102 and having the minimum dimensions 500 mm x 500 mm and 200 mm in height and supported on resilient material
Tool bit	Drill bit as recommended by the manufacturer for drilling in concrete and of the size defined in Table Z103
Feed force	The feed force applied to the tool in addition to its weight shall be just as necessary to ensure stable operation. Excessive feed force shall be avoided. Vibration reducing mechanisms shall not be overloaded to allow them proper operation
Test cycle	Measurement starts when the drill bit has contact to the concrete block and stops when the maximum depth of hole, according to Table Z103, is reached before the drill bit is removed from the hole

NOTE In general, stable operation is achieved by a feed force which is 1,5 times the weight of the tool but not more than 200 N.

6.2.7.1 Reported vibration value

Addition:

If more than one operating mode was measured, the result a_h for each operating mode applicable shall be reported.

$a_{h,HD}$ = mean vibration “hammer drilling” in accordance with 6.2.6.3.102

$a_{h,CH}$ = mean vibration “chiselling” on loading device in accordance with 6.2.6.3.101

$a_{h,NL}$ = mean vibration “no load” with lifted hammer on loading device in accordance with 6.2.6.3.101

$a_{h,CHeq}$ = $[0,2 (a_{h,NL})^2 + 0,8 (a_{h,CH})^2]^{0,5}$
 = Equivalent chiselling value (representing time contents of 20 % with no load and 80 % with full load)

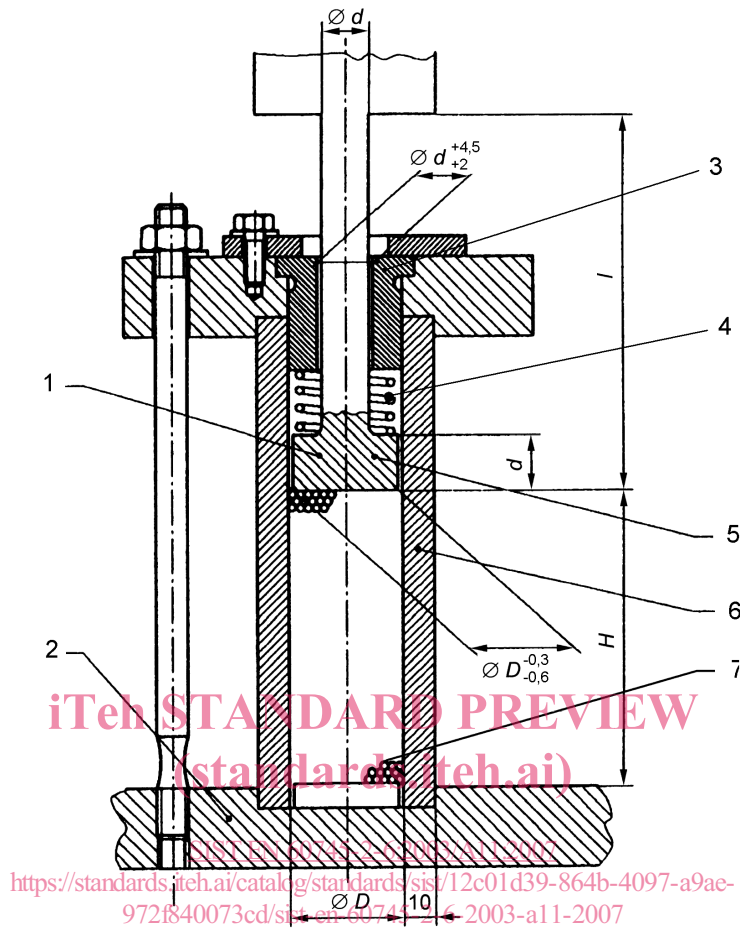
6.2.7.2 Declaration of the vibration emission value

Addition:

The vibration emission values of the handle with the highest emission and the uncertainty K shall be declared:

- for rotary hammers without chiselling (non rotary) function
the value of $a_{h,HD}$, with the work mode description “hammer drilling into concrete”;
- for rotary hammers with separate chiselling function
the value of $a_{h,HD}$, with the work mode description “hammer drilling into concrete” and
the value of $a_{h,CHeq}$, with the work mode description “chiselling”;
- for chiselling hammers and concrete breakers
the value of $a_{h,CHeq}$, with the work mode description “chiselling”.

Replace the existing Figure Z104 by the following:



Dimensions in mm

Key

- 1 Optional design of the inserted (test) tool
- 2 Steel plate mounted on a concrete block
- 3 Bushing
- 4 Spring, rate <math>< 1,2 \text{ N/mm}</math>, slightly pre-stressed
- 5 Hardened steel 55 HRC ± 2 HRC
- 6 Hardened steel 62 HRC ± 2 HRC
- 7 Hardened steel min. 63 HRC
- l* Length of the inserted (test) tool

Loading device parameters

Dimension <i>d</i> mm	Steel tube diameter <i>D</i> mm	Steel ball diameter mm	Ball column height <i>H</i> mm
≤ 23	40	4	100
> 23	60	4	150

Figure Z104 - Loading device for percussion hammers

Add the following new figures:

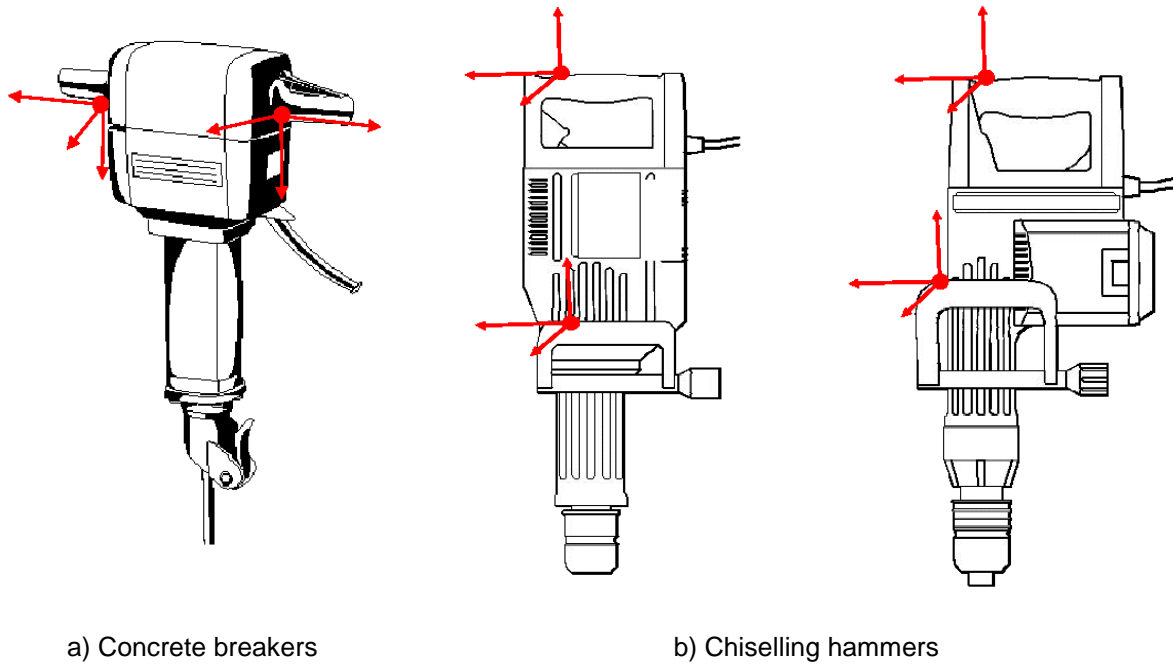


Figure Z107 - Positions of transducers for a) concrete breakers and b) chiselling hammers
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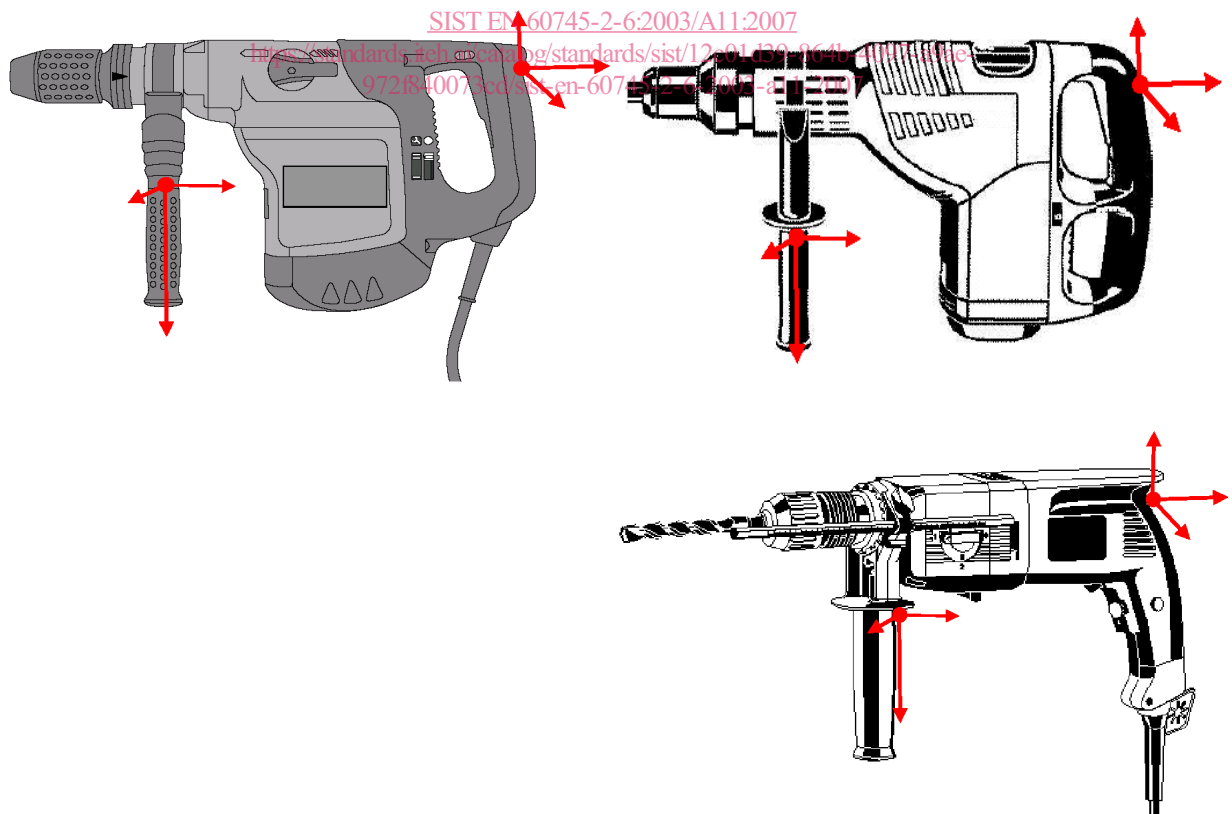


Figure Z108 - Positions of transducers for rotary hammers