



**SLOVENSKI STANDARD**  
**SIST EN 60745-2-1:2003/A1:2009**  
**01-september-2009**

9`Y\_fj bUfc bUcfcX^U!`JUfbcghi!`&!%`XY.`DcgYVbYnU hYj YnUj fHJb\_L`Y]b`i XUfbY  
 fj ]VfUW`g\_YL`j fHJb\_L`Yf197 \* \$+( ) !&!%&\$ \$' #5 %&\$ \$, £

Hand-held motor-operated electric tools - Safety -- Part 2-1: Particular requirements for drills and impact drills

Handgeführte motorbetriebene Elektrowerkzeuge - Sicherheit -- Teil 2-1: Besondere Anforderungen für Bohrmaschinen und Schlagbohrmaschinen

Outils électroportatifs à moteurs - Sécurité -- Partie 2-1: Règles particulières pour les perceuses

(standards.iteh.ai)  
 https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce719f/sist-en-60745-2-1-2003-a1-2009

**Ta slovenski standard je istoveten z: EN 60745-2-1:2003/A1:2009**

**ICS:**

25.080.40	Vrtalniki	Drilling machines
25.140.20	Ò\^ dā } æ ! [ åæ	Electric tools

**SIST EN 60745-2-1:2003/A1:2009** en,fr

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 60745-2-1:2003/A1:2009

<https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60745-2-1/A1**

May 2009

ICS 25.140.20; 25.140.30

English version

**Hand-held motor-operated electric tools -  
Safety -  
Part 2-1: Particular requirements for drills and impact drills  
(IEC 60745-2-1:2003/A1:2008)**

Outils électroportatifs à moteurs -  
Sécurité -  
Partie 2-1: Règles particulières  
pour les perceuses  
(CEI 60745-2-1:2003/A1:2008)

Handgeführte motorbetriebene  
Elektrowerkzeuge -  
Sicherheit -  
Teil 2-1: Besondere Anforderungen  
für Bohrmaschinen und  
Schlagbohrmaschinen  
(IEC 60745-2-1:2003/A1:2008)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

This amendment A1 modifies the European Standard EN 60745-2-1:2003; it was approved by CENELEC on 2009-04-22. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, 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

**Central Secretariat: avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 61F/731/FDIS future amendment 1 to IEC 60745-2-1:2003, prepared by SC 61F (transformed into TC 116, Safety of hand-held motor-operated electric tools), was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60745-2-1:2003 on 2009-04-22.

With this amendment, this Part 2 is established on the basis of EN 60745-1:2006.

Main changes include editorial modifications to match with EN 60745-1:2006 and the addition of a new safety warning to Clause 8: Marking and instructions.

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) 2010-02-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2012-05-01

---

## Endorsement notice

The text of amendment 1:2008 to the International Standard IEC 60745-2-1:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

**(standards.iteh.ai)**

[SIST EN 60745-2-1:2003/A1:2009](https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009)

<https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009>



IEC 60745-2-1

Edition 2.0 2008-05

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

Hand-held motor-operated electric tools – Safety –  
Part 2-1: Particular requirements for drills and impact drills  
(standards.iteh.ai)

Outils électroportatifs à moteur – Sécurité –  
Partie 2-1: Règles particulières pour perceuses et perceuses à percussion

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

**E**

## FOREWORD

This amendment has been prepared by subcommittee 61F: Safety of hand-held motor-operated electric tools, of IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this amendment is based on the following documents:

FDIS	Report on voting
61F/731/FDIS	61F/751/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

With this amendment, this Part 2 is established on the basis of the fourth edition (2006) of IEC 60745-1, *Hand-held motor-operated electric tools – Safety – Part 1: General requirements*.

Main changes include editorial modifications to match with the fourth edition of IEC 60745-1 and the addition of a new safety warning to Clause 8: Marking and instructions.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

### 1 Scope

*Replace the existing text of Clause 1 by the following:*

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

*Addition:*

This standard applies to drills and impact drills.

### 3 Definitions

*Change the title of Clause 3 to read:*

### 3 Terms and definitions

### 8 Marking and instructions

*Replace the existing text of 8.12.1 by the following:*

**8.12.1.1 Addition:****Drill safety warnings**

- **Wear ear protectors when impact drilling.** *Exposure to noise can cause hearing loss.*  
NOTE The above warning applies only to impact drills and may be omitted for drills other than impact drills.
- **Use auxiliary handle(s), if supplied with the tool.** *Loss of control can cause personal injury.*
- **Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** *Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.*

**12 Heating**

Replace the existing text of 12.3 by the following:

**12.3 Addition:**

*The temperature-rise limit specified for the external enclosure does not apply to the enclosure of the impact mechanism.*

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

**17 Endurance**

Replace the existing text of 17.2 by the following:

[SIST EN 60745-2-1:2003/A1:2009](https://standards.iteh.ai/catalog/standards/sist/57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009)

**17.2 Replacement for impact drills:**

<https://standards.iteh.ai/catalog/standards/sist/57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009>

*Impact drills are operated with no load and, if the impact mechanism can be engaged and disengaged at will, the impact mechanism shall remain disengaged, for 12 h at supply voltage equal to 1,1 times rated voltage and then for 12 h at a supply voltage equal to 0,9 times rated voltage. The speed is adjusted to the highest value of the highest range.*

*Each cycle of operation comprises an "on" period of 100 s and an "off" period of 20 s, the off periods being included in the specified operating time.*

*During the test, the tool is placed in three different positions, the operating time, at each voltage, being approximately 4 h for each position.*

*During this test, replacement of the carbon brushes is allowed, and the tool is oiled and greased as in normal use.*

*The tool may be switched on and off by means of a switch other than that incorporated in the tool.*

*The impact drills are then mounted vertically in a test apparatus as shown in Figure 101 and are operated at rated voltage or at the mean value of the rated voltage range, for four periods of 6 h each, the interval between these periods being at least 30 min; if the impact mechanism can be engaged and disengaged at will, the impact mechanism shall remain engaged.*

*During these tests, the impact drills are operated intermittently, each cycle comprising a period of operation of 30 s and a rest period of 90 s during which the tool remains switched off.*

*During the tests, an axial force, just enough to ensure steady operation of the impact mechanism, is applied to the impact drill through a resilient medium.*

*If the impact mechanism fails mechanically during the test without causing an accessible part to become live, it may be replaced by a new one.*

*During these tests, overload protection devices shall not operate.*

NOTE 1 Monitoring of external temperatures will help avoid mechanical failures.

NOTE 2 The change of position is made to prevent abnormal accumulation of carbon dust in any particular place. Examples of the three positions are horizontal, vertically up and vertically down.

## 21 Construction

*Replace the existing text of 21.18 by the following:*

### 21.18 Addition:

A switch lock-on device, if any, shall be located outside the grasping area, or so designed that it is not likely to be unintentionally locked on by the user's hand during intended left- or right-handed operation. This grasping area is considered to be the contact area between either hand and the tool while the index finger of that hand is resting on the switch actuator of the tool.

*Compliance is checked by inspection or by the following test.*

*For a switch with a lock-on device within the grasping area, the lock-on device shall not be actuated by a straight-edged utensil when the utensil is made to pass back and forth across the device in any direction. The straight-edged utensil may be of any convenient length sufficient to bridge the surface of the lock-on device and any surface adjacent to the lock-on device.*

[SIST EN 60745-2-1:2003/A1:2009](https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009)

## 23 Components <https://standards.iteh.ai/catalog/standards/sist/f57e384d-dd93-42ac-b88c-6a3386ce7f9f/sist-en-60745-2-1-2003-a1-2009>

*Replace the existing text of Clause 23 by the following:*

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

### 23.3 Replacement:

Overload protection devices shall be of the non-self-resetting type unless the tool is equipped with a momentary switch with no provision for being locked in the "on" position.

*Compliance is checked by inspection.*