



SLOVENSKI STANDARD

SIST HD 400.2A S1:1995

01-marec-1995

Hand held motor operated tools - Part 2: Particular specifications - Section A: Drills

Hand-held motor operated tools -- Part II: Particular specifications -- Section A: Drills

Handgeführte Elektrowerkzeuge -- Teil II: Besondere Bestimmungen -- Hauptabschnitt A:
Bohrmaschinen

iTeh STANDARD PREVIEW

Outils portatifs à main à moteur -- (Partie II: Règles particulières -- Section A: Perceuses

Ta slovenski standard je istoveten z: **HD 400.2A S1:1980/A1:1994**

<https://standards.iteh.ai/catalog/standards/sis/05cb4a74-d688-4547-87ad-ac63fe23e40a/sist-hd-400-2a-s1-1995>

ICS:

25.080.40	Vrtalniki	Drilling machines
25.140.20	Električna orodja	Electric tools

SIST HD 400.2A S1:1995

en

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SIST HD 400.2A S1:1995

<https://standards.iteh.ai/catalog/standards/sist/05cb4a74-d688-4347-87ad-ae63fe23e40a/sist-hd-400-2a-s1-1995>

HARMONIZATION DOCUMENT

HD 400.2A S1/A1

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

August 1994

UDC 621.9-182.4-83:621.313.13

Descriptors: Hand-held motor operated tools, drills, particular specifications

ENGLISH VERSION

Hand-held motor operated tools
Part II: Particular specifications
Section A: Drills

Outils portatifs à main à moteur
Partie II: Règles particulières
Section A: Perceuses

Handgeführte Elektrowerkzeuge
Teil II: Besondere Bestimmungen
Hauptabschnitt A: Bohrmaschinen

STANDARD PREVIEW
This amendment modifies the Harmonization Document HD 400.2A S1:1980. It was approved by CENELEC on 1993-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French and German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Ref. No. HD 400.2A S1:1980/A1:1994 E

Foreword

This Harmonization Document was prepared by CENELEC Technical Committee TC 61F, Hand-held and transportable electric motor operated tools.

It was submitted to the Unique Acceptance Procedure (UAP) in February 1993 and was approved by CENELEC as amendment A1 to HD 400.2A S1:1980 on 1993-12-08.

The following dates were fixed:

- latest date of announcement of the amendment at national level (doa) 1994-06-01
- latest date of publication of a harmonized national standard (dop) 1994-12-01
- latest date of withdrawal of conflicting national standards (dow) 1994-12-01

For products which have complied with HD 400.2A S1:1980 before 1994-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-12-01.

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Text of amendment A1 to HD 400.2A S1

SIST HD 400.2A S1:1995

18. Mechanical hazard <https://standards.iteh.ai/catalog/standards/sist/05cb4a74-d688-4347-87ad-ac65fe23e40a/sist-hd-400-2a-s1-1995>

Add the following new subclause

18.3 Additional subclause:

- 18.3.1 Drills and impact drills shall be constructed in such a way that extremely hazardous reaction torques up to sudden stalling which can lead to injuries of hands and arms or to accidents resulting in falling (person) or dropping (rod) are avoided as much as possible.

Note: Requirements and test specifications concerning dynamic forces intervening in a sudden stalling are under consideration.

18.3.2 Definitions and explanations

- 18.3.2.1 With the practical application, numerous operator's stress combinations appear which are beyond the possibility for standardization.

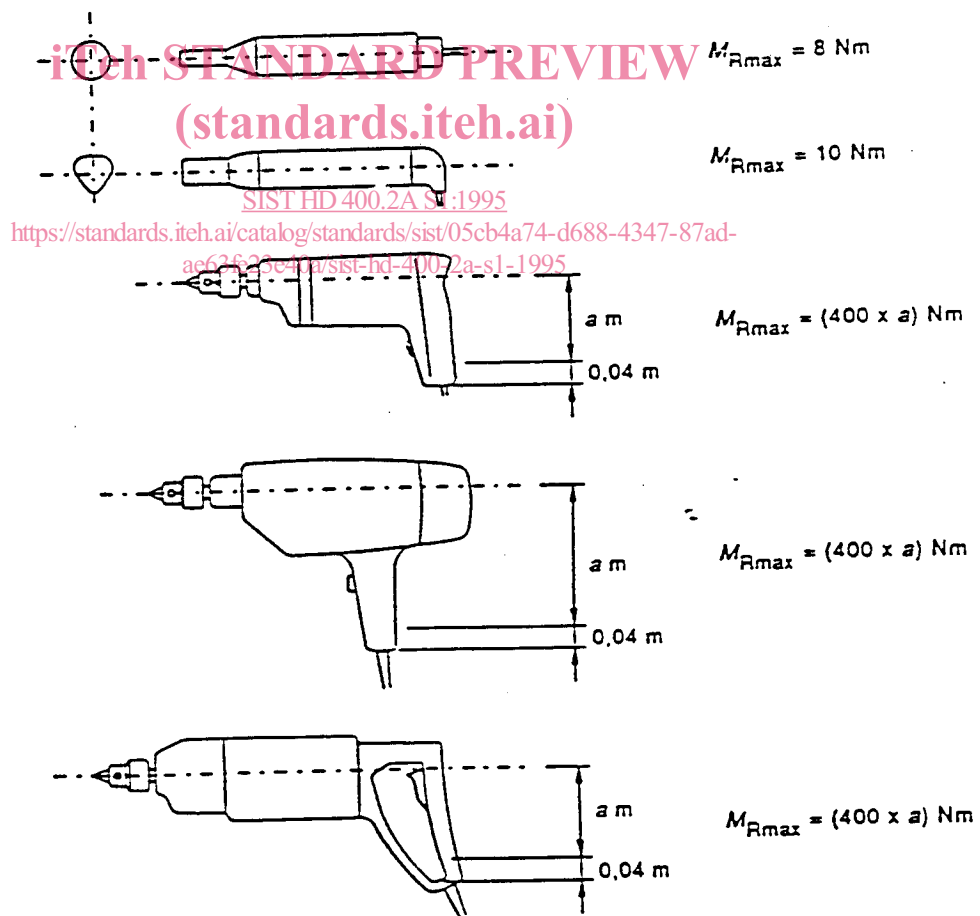
Empirical re-calculation reveal that in extreme cases forces in the centre of the hand up to 400 N can still be absorbed. Based on this reaction force the maximum admissible reaction torque as stalling or clutch torque can be calculated with the length of lever arm for each respective handle location.

18.3.3 Maximum values

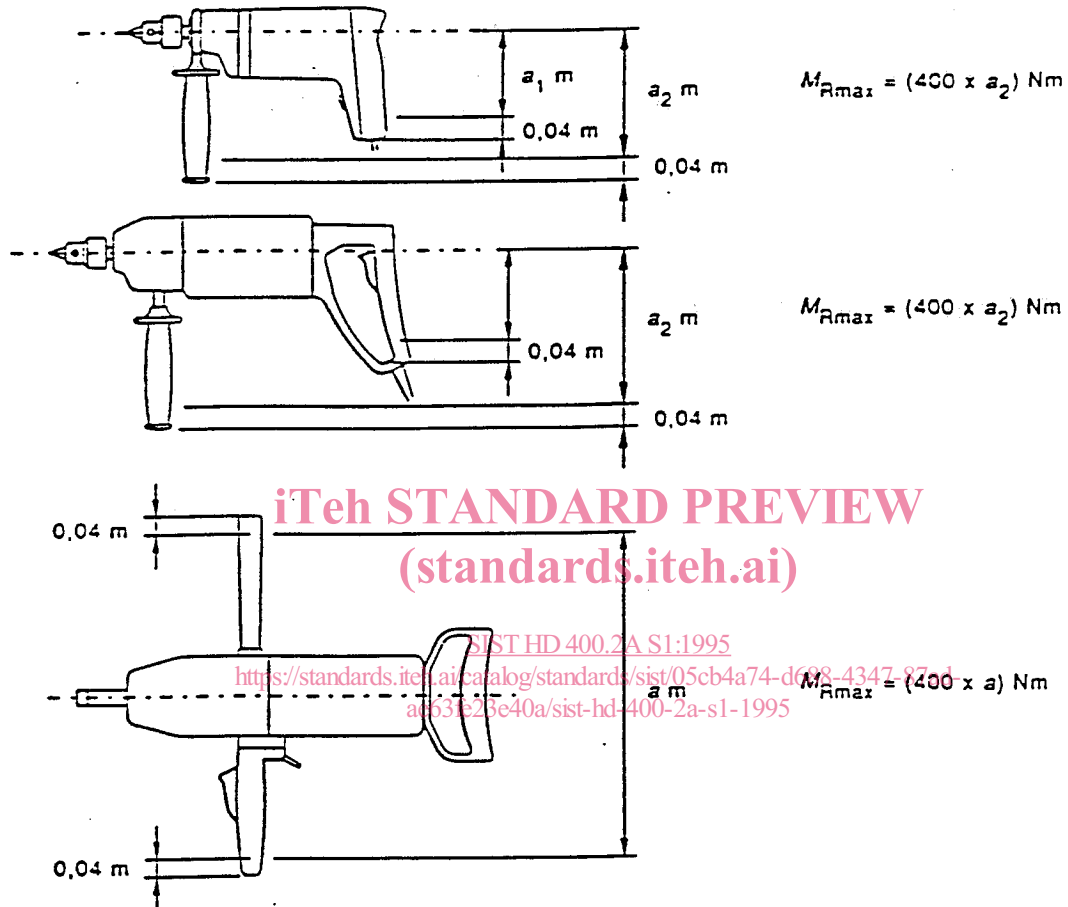
The reaction torque M_r shall neither as stalling torque M_b nor as clutch torque M_k exceed the following maximum values dependent on the shape of the tool and the typical location of handle and single or double-hand support

Based upon practical experience, it is assumed that with double-hand support the reaction torque M_r will be mainly absorbed at the auxiliary handle. (The hand at the switch handle chiefly serves for operating pressure and guidance).

18.3.3.1 Single-hand support



18.3.3.2 Double-hand support



18.3.4 Test - Measurement of the static stalling torque or slip torque of a clutch at the locked driven spindle of the tool in cold condition.

The tool is connected to rated voltage and switched on by means of the tool switch. Thereby, the mechanical gears are adjusted to the lowest speed. Electronic speed regulations are adjusted to their maximum speed value. It shall be below the relevant maximum value.

HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD **400.2**
Edition 1
December 1979
Date of approval: 1980-04-24

UDC : 621.9-182.4-83..621.313.13

Key words : Hand-held motor operated tools - particular safety requirements on safety - drills - screwdrivers - impact wrenches - grinders - polishers - disc-type sanders - sanders - circular saws - circular knives - hammers - spray guns

English version

HAND-HELD MOTOR OPERATED TOOLS - PART II: PARTICULAR SPECIFICATIONS:

OUTILS PORTATIFS A MAIN A MOTEUR - PARTIE II: REGLES PARTICULIERES:

HANDGEFÜHRTE ELEKTROWERKZEUGE - TEIL II: BESONDERE BESTIMMUNGEN:

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SIST HD 400.2A S1:1995

Section A	DRILLS
Section B	SCREWDRIVERS AND IMPACT WRENCHES
Section C	GRINDERS, POLISHERS AND DISC-TYPE SANDERS
Section D	SANDERS
Section E	CIRCULAR SAWS AND CIRCULAR KNIVES
Section F	HAMMERS
Section G	SPRAY GUNS

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C E N E L E C

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COMITE EUROPEEN DE NORMALISATION ELEOTROTECHNIQUE
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INDEX

Foreword

Endorsement Notice

- A. DRILLS
1. Scope
 2. Definitions
 4. General notes on tests
 7. Marking
 11. Heating
 16. Endurance
 18. Mechanical hazards
 20. Construction
- B. SCREWDRIVERS AND IMPACT WRENCHES
2. Definitions
 6. Classification
 7. Marking
 10. Input and current
 11. Heating
 16. Endurance
 20. Construction
 23. Supply connection and external flexible cables and cords
- C. GRINDERS, POLISHERS AND DISC-TYPE SANDERS
2. Definitions
 7. Marking
 11. Heating
 18. Mechanical hazards
 20. Construction
 23. Supply connection and external flexible cables and cords
- D. SANDERS
1. Scope
 2. Definitions
 7. Marking
 16. Endurance
 19. Mechanical strength
- E. CIRCULAR SAWS AND CIRCULAR KNIVES
2. Definitions
 7. Marking
 11. Heating
 18. Mechanical hazards
 19. Mechanical strength
 20. Construction
- F. HAMMERS
2. Definitions
 11. Heating
 16. Endurance
 19. Mechanical strength
 20. Construction
 23. Supply connection and external flexible cables and cords
 24. Terminals for external conductors
- G. SPRAY GUNS
1. Scope
 2. Definitions
 7. Marking
 9. Starting
 16. Endurance
 19. Mechanical strength
 20. Construction
 21. Components
 27. Creepage distances, clearances and distances through insulation

FIGURES

- A 1 Apparatus for testing impact drills and hammers
- E 1 Method of measurement of maximum opening angle for circular saws and circular knives

Addendum Temporary national deviations from HD 400.2

FOREWORD

This Harmonization Document has been prepared by the Secretariat of CENELEC Technical Committee 313 in accordance with the decisions taken by this committee during its meetings held in October 1977 in Baden/Vienna and in November 1978 in Stockholm.

This Harmonization Document is based on CEE Publication 20, Part II, Sections A to G, second edition, 1977. The reasons for the common modifications to this publication are mentioned in the last column of the Endorsement Notice, in accordance with the CENELEC Internal Regulations.

- Note 1. The contents of this Harmonization Document will be re-examined as soon as new amendments to CEE Publication 20, Part II, Sections A to G, have been published.
- Note 2. For components used in hand-held motor operated tools, reference is made to CENELEC Harmonization Documents or, in the absence of such documents, to other international standards. Only in so far as these standards are harmonized by CENELEC, the requirements for components will be identical.
- Note 3. Temporary national deviations from this Harmonization Document are mentioned in an addendum to this document which does not form part of this Harmonization Document and has the status of a CENELEC report. It is published separately.

These sections A - G of Part II in HD 400.2 have to be used together with Part I in HD 400.1.

The clauses of these sections supplement or modify the corresponding clauses in Part I. Where there is no corresponding clause or sub-clause in these sections, the clause or sub-clause of Part I applies without modification as far as is reasonable. Where the text of these sections states "addition", "modification" or "replacement", the relevant requirement, test specification or explanation of Part I should be adapted accordingly.

December 1979

ENDORSEMENT NOTICE

CEE Publication 20, Part II, Sections A to G, second edition, 1977, applies, except for the following common modifications:

SECTION CLAUSE	MODIFICATION	REASON
A DRILLS	No deviation	
B SCREWDRIVERS AND IMPACT WRENCHES 23	CENELEC specifies for impact wrenches a harmonized cable not lighter than HO7 RN-F.	CLC TC 313 found it technically correct that the type of cable be in relation to the stresses to be expected in normal use.
C GRINDERS, POLISHERS AND DISC-TYPE SANDERS 18.2	CENELEC amend this sub-clause by a note stating that this requirement does not apply to cup-type brushes and to disc-type sanders for use with abrasive papers.	Technical improvement
23.2	CENELEC specifies for - angle grinders with wheel diameters exceeding 150 mm, - straight grinders with wheel diameters exceeding 130 mm, and - all grinders with water supply a harmonized cable not lighter than HO7 RN-F.	Adaptation to EN 68 As stated for Section F
D SANDERS	No deviation	
E CIRCULAR SAWS AND CIRCULAR KNIVES 18.2	As an amendment CENELEC HD includes a figure showing the measuring method for the opening angle between the fixed and the movable guards.	Improvement with a view to attaining a uniform testing practice.
F HAMMERS 23.2	CENELEC specifies a harmonized cable not lighter than HO7 RN-F.	As stated for Section B.
G SPRAY GUNS Scope	CENELEC provisionally limits the scope of this section to spray guns for handling non-flammable sprays. Consequently, CEE Sub-clauses 7.13 and 20.23 are to be eliminated too.	Provisional limitation of scope until harmonized rules for handling flammable or explosive substances are available.

December 1979

SECTION A

DRILLS

1. SCOPE

- 1.1 Addition:
Impact drills are within the scope of this section.

2. DEFINITIONS

- 2.2 MODIFICATION:
18. NORMAL LOAD DENOTES THE LOAD OBTAINED WHEN THE DRILL, PLACED IN THE HORIZONTAL POSITION, IS OPERATED CONTINUOUSLY, THE TORQUE APPLIED TO THE SPINDLE BEING SUCH THAT THE OUTPUT, IN WATTS, IS EQUAL TO $15D$, WHERE D IS:
- FOR DRILLS DELIVERED WITH A CHUCK, THE MAXIMUM DIAMETER, IN MILLIMETRES, OF THE BIT MARKED ON THE CHUCK,
FOR OTHER DRILLS, THE MAXIMUM DIAMETER, IN MILLIMETRES, OF THE BIT FOR DRILLING IN STEEL MARKED ON THE DRILL.

4. GENERAL NOTES ON TESTS

- 4.8 Modification:
In the case of drills having electronic shifting devices allowing the setting of different speed ranges the test is made at the maximum speed setting of the lowest speed range. If there is, in addition to an electronic speed shifting device, a gear allowing mechanical speed shifting, the gear is set for the lowest speed.

7. MARKING

- 7.1 MODIFICATION:
DRILLS SHALL BE MARKED WITH:
RATED NO-LOAD SPEED IN REVOLUTIONS PER MINUTE, IF EXCEEDING 10 000, PRECEDED BY THE SYMBOL n_0 .

ADDITIONS:
DRILLS SHALL BE MARKED WITH:
MAXIMUM DIAMETER, IN MILLIMETRES, OF THE BIT FOR DRILLING IN STEEL HAVING A TENSILE STRENGTH OF 390 N/mm^2 .

IF THE DRILL IS MARKED WITH THE SPEED AT NORMAL LOAD, THE VALUE OF THE SPEED SHALL BE PRECEDED BY THE LETTER n .

Addition:

The marking for rated no-load speed and for speed at normal load may accordingly be as follows:

n_0 12 000/min or n_0 12 000/min
 n 9000/min or
 n_0 12 000/min
 n 2000/4500/9000/min

7.6 ADDITION:

SPEED AT NORMAL LOAD n
RATED NO-LOAD SPEED..... n_0 .

11. HEATING

- 11.1 Modifications:
The drill is operated continuously, the torque applied to the spindle being such that the output, in watts, is equal to $12D$, where D is:
for drills delivered with a chuck, the maximum diameter, in millimetres, of the bit for drilling in steel marked on the chuck,
for other drills, the maximum diameter, in millimetres, of the bit for drilling in steel marked on the drill.

If, however, the rated input exceeds the input measured during the test of sub-clause 10.1, the test is made with a torque equal to 0.8 times the torque necessary to attain rated input. The voltage is then adjusted to the value specified, the torque being kept constant while the voltage is adjusted.