

SLOVENSKI STANDARD
SIST EN 60900:2001/A1:2001
01-september-2001

Hand tools for live working up to 1 kV a.c. and 1,5 kV d.c.

Hand tools for live working up to 1 kV a.c. and 1,5 kV d.c.

Handwerkzeuge zum Arbeiten an unter Spannung stehenden Teilen bis AC 1 kV und DC 1,5 kV

Outils à main pour travaux sous tension jusqu'à 1 kV en courant alternatif et 1,5 kV en courant continu

STANDARD PREVIEW
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Ta slovenski standard je istoveten z: **EN 60900:1993/A1:1995**

SIST EN 60900:2001/A1:2001
<https://standards.iteh.ai/catalog/standards/sist/45c47866-0cbe-417e-b13e-41acd34d2568/sist-en-60900-2001-a1-2001>

ICS:

13.260 Xæ•ç[Á!^áÁ|\ dā} ā Protection against electric
~ áæ[{ ÉÖ^|[Á[áÁ æ^ç •ç shock. Live working

SIST EN 60900:2001/A1:2001

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60900/A1

November 1995

UDC 621.3.002.54:621.3.027.4:620.1:614.8
ICS 13.340.20

Descriptors: Insulated hand tool, insulating hand tool, live working, characteristic, test

English version

**Hand tools for live working up to 1 000 V a.c. and 1 500 V d.c.
(IEC 900:1987/A1:1995)**

Outils à main pour travaux sous tension
jusqu'à 1 000 V en courant alternatif et
1 500 V en courant continu
(CEI 900:1987/A1:1995)

Handwerkzeuge zum Arbeiten an unter
Spannung stehenden Teilen bis
1 000 V a.c. und 1 500 V d.c.
(IEC 900:1987/A1:1995)

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[SIST EN 60900:2001/A1:2001](https://standards.iteh.ai/catalog/standards/sist/43c47866-0cbc-417e-b15e-41acd34d2568/sist-en-60900-2001-a1-2001)

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This amendment A1 modifies the European Standard EN 60900:1993; it was approved by CENELEC on 1995-09-20. 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, 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

Foreword

The text of document 78/163/DIS, future amendment 1 to IEC 900:1987, prepared by IEC TC 78, Tools for live working, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60900:1993 on 1995-09-20.

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) 1996-07-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-07-01

As a consequence of endorsing amendment 1:1995 to IEC 900:1987, the common modifications and annexes ZA and ZB in EN 60900:1993 are withdrawn and replaced by similar IEC text. Hence, EN 60900:1993 + A1:1995 is now identical to IEC 900:1987 + A1:1995.

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given for information only. In this standard, annexes C and ZC are normative and annexes A, B and D are informative. Annex ZC has been added by CENELEC, it replaces annex ZC of EN 60900.

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Endorsement notice

[SIST EN 60900:2001/A1:2001](https://standards.iteh.ai/catalog/standards/sist/43c47866-0cbc-417e-b15e-41acd94d2900/sist-en-60900-2001-a1-2001)

The text of amendment 1:1995 to the International Standard IEC 900:1987 was approved by CENELEC as an amendment to the European Standard without any modification.

Editorial corrections to the English text of amendment 1 to IEC 900:

- Figure 1, add the reference "(see 3.2.1)";
- Figure 4, add the title "Example of a test arrangement for impact test (see 4.3)".

Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Add:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 50(151)	1978	International Electrotechnical Vocabulary (IEV) - Chapter 151: Electrical and magnetic devices	-	-
IEC 60	series	High-voltage test techniques	HD 588.1 S1 EN 60060-2	1991 1994
IEC 212	1971	Standard conditions for use prior to and during the testing of solid electrical insulating materials	HD 437 S1	1984
IEC 410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 743	1983	Terminology for tools and equipment to be used in live working	-	-
IEC 855 (mod)	1985	Insulating foam-filled tubes and solid rods for live working	HD 496 S1	1988
IEC 1318	1994	Live working Guidelines for quality assurance plans	-	-
ISO 1703	1983	Assembly tools for screws and nuts Nomenclature	-	-
ISO 2859	1974	Sampling procedures and tables for inspection by attributes	-	-
ISO 5742	1982	Pliers and nippers - Nomenclature	-	-
ISO 9000	series	Quality management and quality assurance standards	EN 29000 EN ISO 9000	series

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
900

1987

AMENDEMENT 1
AMENDMENT 1

1995-08

Amendement 1

Outils à main pour travaux sous tension
jusqu'à 1 000 V en courant alternatif
et 1 500 V en courant continu

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Amendment 1

[SIST EN 60900:2001/A1:2001](https://standards.iteh.ai/standards/iec/60900-2001-a1-2001)

<https://standards.iteh.ai/standards/iec/60900-2001-a1-2001>
41acd34d2568/sist-en-60900-2001-a1-2001

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1 000 V a.c. and 1 500 V d.c.

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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Pour prix, voir catalogue en vigueur
For price, see current catalogue

FOREWORD

This amendment has been prepared by IEC technical committee 78: Tools for live working.

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

DIS	Report on voting
78/163/DIS	78/178/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.

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Clauses 3 and 4

Corrections apply to French text only.

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[SIST EN 60900:2001/A1:2001](https://standards.iteh.ai/catalog/standards/sist/43c47866-0cbc-417e-b15e-60900-2001-a1-2001)

[https://standards.iteh.ai/catalog/standards/sist/43c47866-0cbc-417e-b15e-](https://standards.iteh.ai/catalog/standards/sist/43c47866-0cbc-417e-b15e-60900-2001-a1-2001)

Add the title of the new clause B as follows: 60900-2001-a1-2001

8 Quality assurance plan

Add the titles of the new annexes C and D as follows:

Annex C – Sampling procedure

Annex D – Recommendation for use and in service care

General remark

Delete the term ", page xx" after "figure yy" throughout the text.

Page 5

PREFACE

Add, to the text of publications quoted, the following publications:

IEC 410: 1973, *Sampling plans and procedures for inspection by attributes*

IEC 1318: 1994, *Live working – Guidelines for quality assurance plans*

ISO 1703: 1983, *Assembly tools for screws and nuts – Nomenclature*

ISO 5742: 1982, *Pliers and nippers – Nomenclature*

Page 7

1 Scope

Replace the existing text after the second dash by the following:

- insulating rods and poles, used for working at a distance, which are covered by IEC 855.

2.1 Assembly tools for screws and nuts

Add, at the end of the existing text, the following phrase:

"... such as ISO 1703 and ISO 5742".

2.2 Insulated hand tools

Replace, "to avoid short-circuits" by "to minimize the risk of short-circuits".

2.3 Insulating hand tools

Replace the existing definition by the following:

Hand tools made predominantly of insulating material except for metal inserts:

- at the working head or active part, or
- used for reinforcement, but with no exposed metal parts,

in either case to protect the user from electric shocks as well as to prevent any short-circuit between phases or exposed parts at different potentials.

Add, on page 9, the following new definition:

2.6 Formation of lots or batches

The product is assembled into identifiable lots, sub-lots, batches, or in such other manner as may be prescribed (see 5.4 of IEC 410). Each lot or batch, as far as practicable, consists of units of product of a single type, grade, class, size and composition, manufactured under essentially the same conditions and essentially the same time (see IEC 1318).

Page 9

3 Requirements

Changes in the titles 3 and 3.1 apply to French text only.

3.1 General requirements

Subclause 3.1.2

Replace, in the first sentence of the first paragraph, "a similar function" by "the same function".

Add the new note as follows:

NOTE – Where no ISO standard is available, a standard specified by the customer (e.g. regional or national standard) should be used.

Subclause 3.1.3

Delete the last sentence of the second paragraph.

Delete notes 1 and 2.

Add the following new paragraph:

The design and construction of the handles shall provide a secure handhold and prevent unintentional slipping.

Page 11

Subclause 3.1.4

Add, after the second paragraph, the following new paragraph:

Tools intended for use at extremely low temperatures ($-40\text{ }^{\circ}\text{C}$) shall be designated "Category C" and shall be designed for this purpose.

Delete the note.

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Subclause 3.1.5

In the second line, replace "socket-wrenches" by "double-ended socket-wrenches".

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Subclause 3.1.6

Replace the existing text by the following:

Tools capable of being assembled shall have suitable retaining devices to prevent unintentional separation of the assembly.

Subclause 3.1.7

In the first line, replace "requiring assembly" by "capable of being assembled".

Add, at the end of 3.1.7, the following new subclause and note:

3.1.8 Tools capable of being assembled and designed to be interchangeable between different manufacturers shall be specifically categorized and marked as such.

NOTE – The system of categorization and marking is under consideration.

3.2 Additional requirements

Corrections apply to French text only.

3.2.1 *Screwdrivers and wrenches*

Subclause 3.2.1.1

In the note, replace "purchaser" by "customer".

Replace the two dashes following the note by the following new text:

– engineers' wrenches: the working surface,

NOTE – At the request of the customer, the uninsulated area may be extended to the working head.

– box wrenches, socket-wrenches, tee wrenches: the working surface and the contact area.

Subclause 3.2.1.2

Replace the existing text by the following new text:

The blade insulation of screwdrivers shall be bonded to the handle. The outer diameter of the insulation, over a length of 30 mm, in area c of figure 1, shall not exceed by more than 2 mm the width of the blade at the tip. This area may be parallel or tapered towards the tip.

3.2.2 *Pliers, strippers, cable scissors, cable-cutting tools having legs up to 400 mm*

Delete, in the title, the phrase "having legs up to 400 mm".

In the first sentence, replace "leg" by "handle", and replace "cannot slip" by "is prevented from slipping".

At the end of the first paragraph, "as an example" after "see figure 2a".

In the second sentence, replace "to preclude the slipping" by "to prevent the slipping".

Page 13

After the second dash, replace "front" and "back" by "upper" and "lower part".

In the last sentence, replace "legs" by "handles".

Add, at the end of 3.2.2, the following new paragraph:

In case of "micro tools", the hand guard may be reduced. (Additional requirements are under consideration.)

3.2.3 *Tools with legs longer than 400 mm*

Delete the title of this subclause.

Add the existing text of 3.2.3 to subclause 3.2.2 and replace "legs" by "handles".

3.2.4 Knives

Renumber 3.2.4 to 3.2.3, as follows:

3.2.3 Knives

In the second sentence, replace "to preclude" by "to prevent".

Add the following new subclause 3.2.4:

3.2.4 Tweezers (see figure 14)

The total length l shall be 130 mm minimum and 200 mm maximum. The length of the handle g shall be 80 mm minimum.

Both handles of the tweezers shall have a guard towards the working head. The guard shall not be movable. Its height h and width b shall be sufficient (5 mm minimum) to prevent any slipping of the fingers during the work towards the uninsulated working head u .

On both handles, the insulated part between the guard and the working head e shall be 12 mm minimum and 35 mm maximum.

In the case of tweezers with a metallic working head, the metallic part shall have a minimum hardness of HRC 35 at least from the working head up to the handles.

The uninsulated length u of the working head shall not exceed a length of 20 mm.

Insulating tweezers shall not have exposed conductive parts.

3.2.5 Marking

Replace the existing text by the following new text:

Each tool and/or tool component shall be legibly and permanently marked with the following inscriptions:

- a) on the insulating material layer or on the metal part:
 - marking of the origin (manufacturer's name or trade mark);
- b) on the insulating material layer:
 - model/type reference;
 - year of manufacture (at least the last two digits of the year);
 - double triangle symbol with indication 1 000 V (i.e. the electrical working limit for alternating current). The symbol shall be at least 3 mm high; the letters and the figures shall be at least 2 mm (see figure 3);
 - for tools designed for use at extremely low temperature ($-40\text{ }^{\circ}\text{C}$): letter "C";
- c) additional marking for tools capable of being assembled and designed to be interchangeable between different manufacturers;