SLOVENSKI STANDARD
SIST EN IEC 60900:2018

01-oktober-2018

Nadomešča:
SIST EN 60900:2012

Delo pod napetostjo - Ročna orodja za uporabo pri izmeničnih napetostih do največ 1000 V in enosmernih napetostih do 1500 V

Live working - Hand tools for use up to 1 000 V a.c. and 1 500 V d.c

Arbeiten unter Spannung - Handwerkzeuge zum Gebrauch bis AC 1 000 V und DC 1 500 V

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

Ta slovenski standard je istoveten z: **EN IEC 60900:2018**

ICS:

13.260	Varstvo pred električnim udarom. Delo pod napetostjo	Protection against electric shock. Live working
25.140.01	Ročna orodja na splošno	Hand-held tools in general

SIST EN IEC 60900:2018 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60900

August 2018

ICS 13.260; 29.240.20; 29.260.99

Supersedes EN 60900:2012

English Version

Live working - Hand tools for use up to 1 000 V AC and 1 500 V DC
(IEC 60900:2018)

Travaux sous tension - Outils à main pour usage jusqu'à 1 000 V en courant alternatif et 1 500 V en courant continu
(IEC 60900:2018)

Arbeiten unter Spannung - Handwerkzeuge zum Gebrauch bis AC 1 000 V und DC 1 500 V
(IEC 60900:2018)

This European Standard was approved by CENELEC on 2018-07-25. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 78/1221/FDIS, future edition 4.0 of IEC 60900, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60900:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-04-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-07-25

This document supersedes EN 60900:2012

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60900:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standards indicated:

IEC 60743 NOTE Harmonized as EN 60743

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-
IEC 60417	-	Graphical symbols for use on equipment. Index, survey and compilation of the single sheets.	-	-
IEC 61318	-	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	-
IEC 61477	-	Live working - Minimum requirements for the utilization of tools, devices and equipment	EN 61477	-
ISO 1174-1	-	Assembly tools for screws and nuts - Driving squares – Part 1: Driving squares for hand socket tools	-	-
ISO 9654	-	Pliers and nippers for electronics - Single-purpose nippers - Cutting nippers	-	-
ISO 9655	-	Pliers and nippers for electronics - Single-purpose nippers - Pliers for gripping and manipulating	-	-
ISO 9656	-	Pliers and nippers for electronics - Test methods	-	-
ISO 9657	-	Pliers and nippers for electronics - General technical requirements	-	-

IEC 60900

Edition 4.0 2018-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Live working – Hand tools for use up to 1 000 V AC and 1 500 V DC

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 13.260; 29.240.20; 29.260.99

ISBN 978-2-8322-5783-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LIVE WORKING – HAND TOOLS FOR USE UP TO 1 000 V AC AND 1 500 V DC

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60900 has been prepared by IEC technical committee 78: Live working.

This fourth edition cancels and replaces the third edition, published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) addition of a third category of tools has been added, namely *hybrid hand tools*;
b) introduction of a new informative Annex A on examples of *insulated*, *insulating* and *hybrid hand tools*.

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

FDIS	Report on voting
78/1221/FDIS	78/1229/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

Terms defined in Clause 3 are given in *italic* print throughout this document.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document has been prepared in accordance with the requirements of IEC 61477 where applicable.

The products covered by this document may have an impact on the environment during some or all stages of its life cycle. These impacts can range from slight to significant, be of short-term or long-term duration, and occur at the global, regional or local level.

This document does not include requirements and test provisions for the manufacturers of the products, or recommendations to the users of the products for environmental improvement. However, all parties intervening in their design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.

LIVE WORKING – HAND TOOLS FOR USE UP TO 1 000 V AC AND 1 500 V DC

1 Scope

This document is applicable to *insulated*, *insulating* and *hybrid hand tools* used for working live or close to live parts at nominal voltages up to 1 000 V AC and 1 500 V DC.

The products designed and manufactured according to this document contribute to the safety of the users provided they are used by skilled persons, in accordance with safe methods of work and the instructions for use (where appropriate).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60212, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 60417, *Graphical symbols for use on equipment* (available at: http://www.graphical-symbols.info/equipment)

IEC 61318, *Live working – Conformity assessment applicable to tools, devices and equipment*

IEC 61477, Live working – *Minimum requirements for the utilization of tools, devices and equipment*

ISO 1174-1, *Assembly tools for screw and nuts – Driving squares – Part 1: Driving squares for hand socket tools*

ISO 9654, *Pliers and nippers for electronics – Single-purpose nippers – Cutting nippers*

ISO 9655, *Pliers and nippers for electronics – Single-purpose pliers – Pliers for gripping and manipulating*

ISO 9656, *Pliers and nippers for electronics – Test methods*

ISO 9657, *Pliers and nippers for electronics – General technical requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61318 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

NOTE The definitions of general terms used in this document are given in IEC 60050 or in special definitions given in IEC 60743.

3.1
hand tool
hand held tool

Note 1 to entry: *Hand tools* may be *insulated hand tools*, *insulating hand tools* or *hybrid hand tools* (see Annex A).

Note 2 to entry: *Hand tools* are normally tools such as screwdrivers, pliers, spanners or knives.

Note 3 to entry: *Hand tools* are designed to provide protection to the worker against electric shock.

[SOURCE: IEC 60050-651:2014, 651-21-19, modified – Note 1 to entry has been modified to refer to Annex A.]

3.1.1
hybrid hand tool
hand tool made from insulating material(s) with exposed conductive parts at the *working head*

Note 1 to entry: *Hybrid hand tools* may have some non-exposed conductive parts used for reinforcement.

[SOURCE: IEC 60050-651:2014, 651-21-22]

3.1.2
insulated hand tool
hand tool made of conductive material(s), fully or partially covered by insulating material(s)

[SOURCE: IEC 60050-651:2014, 651-21-20]

3.1.3
insulating hand tool
hand tool made totally or essentially from insulating material(s) except for inserts made from conductive material(s) used for reinforcement, but with no exposed conductive parts

[SOURCE: IEC 60050-651: 2014, 651-21-21,]

3.2
working head
part of the tool head that is limited to the working surface and the contact area

Note 1 to entry: See Figures 5 and 7.

4 Requirements

4.1 General requirements

4.1.1 Safety

Insulated, insulating and *hybrid hand tools* shall be manufactured and dimensioned in such a way that they protect the user from electric shock.

NOTE 1 *Insulating hand tools* minimize the risk of short-circuits between two parts at different potentials.

NOTE 2 *Hybrid hand tools* reduce the risk of short-circuits between two parts at different potentials.