SLOVENSKI STANDARD
SIST EN 60900:2001/A11:2001

01-september-2001

Amendment to clauses 2, 3, 4 & annex ZC and addition of figures 15, 16, 17 & 18

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

Ta slovenski standard je istoveten z: **EN 60900:1993/A11:1997**

ICS:

13.260	Varstvo pred električnim udarom. Delo pod napetostjo	Protection against electric shock. Live working

SIST EN 60900:2001/A11:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60900/A11

May 1997

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 kV a.c. and 1,5 kV d.c.

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

Handwerkzeuge zum Arbeiten an unter Spannung stehenden Teilen bis 1 kV a.c. und 1,5 kV d.c.

This amendment A11 modifies the European Standard EN 60900:1993; it was approved by CENELEC on 1996-12-09. 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

This amendment was prepared by the Technical Committee CENELEC TC 78, Tools and equipment for live working.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A11 to EN 60900:1993 on 1996-12-09.

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) 1997-12-01

- latest date by which national standards conflicting with the amendment have to be withdrawn (dow) 1997-12-01

This amendment supplements or modifies the text of EN 60900:1993 and its amendment A1:1995.

This amendment to EN 60900 answers the following two questions :

1 - How to solve the insulation compatibility of tools capable to be assembled produced by different manufacturers.

2 - In case of "micro tools", what are the guard dimensions?

Contents

Replace "2.1 Assembly tools for screws and nuts" by: "2.1 Hand tools".

2.1 *Assembly tools for screws and nuts*

Replace the existing subclause by:

2.1 *Hand tools*

For the nomenclature, refer to applicable ISO Standards such as ISO 1703, ISO 5742 and ISO 8979.

3.1 *General requirements*

Replace subclause 3.18 by:

Tools capable of being assembled and designed to ensure compatibility of insulation between different manufacturers shall have square drives and square sockets in accordance with ISO 1174. These tools shall be designed with insulating overlapping elements described in figure 15. Their dimensions and tolerances shall be in accordance with the following table 1.

Table 1 - Dimensions and tolerances of the insulating overlapping element

Dimensions in millimetres

Nominal size	l1 min.	$l2^{+2}_{0}$	$l3^{+0,5}_{-0,5}$	$d1^{0}_{-1,5}$	$d2^{+1,5}_{0}$	$d3^{0}_{-1,5}$	$d4^{+1,5}_{0}$
6,3	19	16	2	12,5	13	18	19
10	19	16	2	17,5	18	23	24
12,5	19	16	2	21,5	22	27	28
20	19	16	2	32	33	38	39
l1, l2, l3, d1, d2, d3 and d4 are described in figure 15.							

NOTE: There are considerable difficulties in developing a unified standard for the mechanical joining systems for components and tools from different manufacturers. Users are strongly advised not to mix insulated tools and component parts from different manufacturers. Only in this way can the mechanical integrity of the joining systems be ensured.

3.2.2 *Pliers, strippers, cable scissors, cable-cutting tools*

Replace the last two paragraphs by:

In case of insulated pliers and nippers for electronics, the dimensions of the guard shall be at least:

- 5 mm on left and right of the pliers held on a flat surface,
- 3 mm on the upper part and the lower part of the pliers held on a flat surface.

The minimum insulated distance between the inner edge of the guard and the non-insulated part shall be 12 mm. The insulation portion of the guard shall extend as far as possible towards the working head (see figure 16).

Pliers and nippers for electronics shall be in accordance with ISO 9654, ISO 9655, ISO 9656 and ISO 9657.

If the handle of the tools are longer than 400 mm, a guard is not required.

3.2.5 *Marking*

Delete paragraph c).

4.1 *General test specifications*

For tests to be carried out according to IEC 60, the test voltage shall be increased and reduced a uniform rate of approximately 1 000 V/s.

4.3.2 *Low temperature test*

Replace the first paragraph by:

Tools, excluding those of category C, shall be conditioned by placement in a cooling chamber for 2 h at -25 °C ± 3 °C.

4.3.3 *Extreme low temperature test*

Replace the first paragraph by:

Tools of category C shall be conditioned by placement in a cooling chamber for 2 h at - 40 °C ± 3 °C.

4.4.2 *Insulated tools*

Add the following new paragraph before the last paragraph :

In case of tools capable of being assembled and designed to ensure compatibility of insulation between different manufacturers, the tools shall be tested in separate parts. The parts shall be assembled with dummies described in figure 17. Their dimensions and tolerances shall be in accordance with the following table 2.

Table 2 - Dimensions and tolerances for dummies to be used for electrical tests

Dimensions in millimetres

Nominal size	L1 ± 0,1	L2 ± 0,1	E1 ± 0,05	D1 ± 0,05	D2 ± 0,05	D3 ± 0,05
6,3	19	16	8,4	11	14,5	16,5
10	19	16	12,7	16	19,5	21,5
12,5	19	16	16,9	20	23,5	25,5
20	19	16	25,4	30,5	34,5	35,6
L1, L2, E1, D1, D2 and D3 are described in figure 17.						

Dummy part 1 shall be assembled with female tool ends and dummy part 2 with male tool ends.

On all single parts tested with dummies, the dielectric testing on the complete assembly is not required.

4.6.1 *Conditioning*

In the first paragraph, second line, **replace** "normal ventilation" by "natural ventilation".

Figures

Add the following figures 15, 16 and 17:

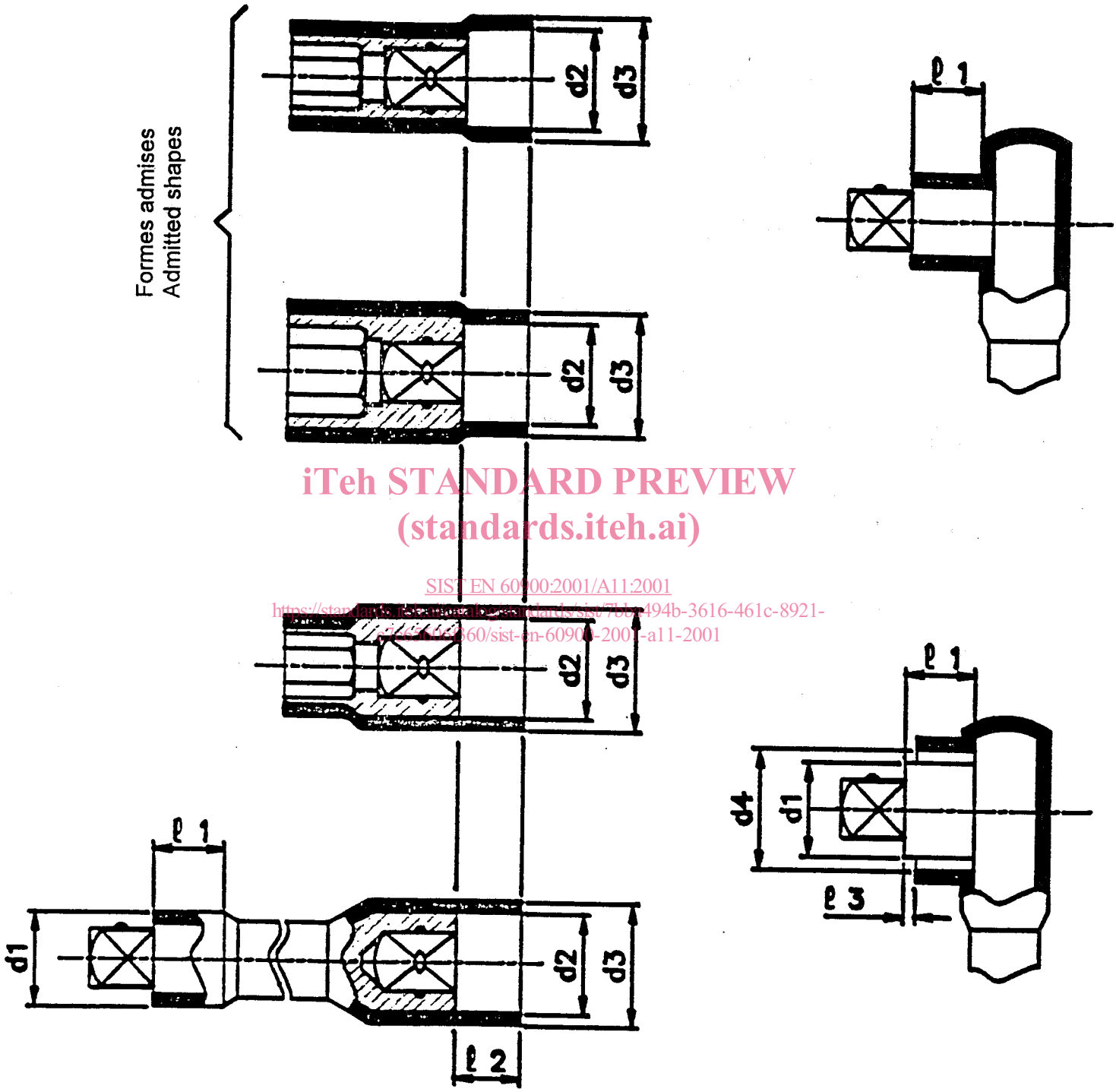
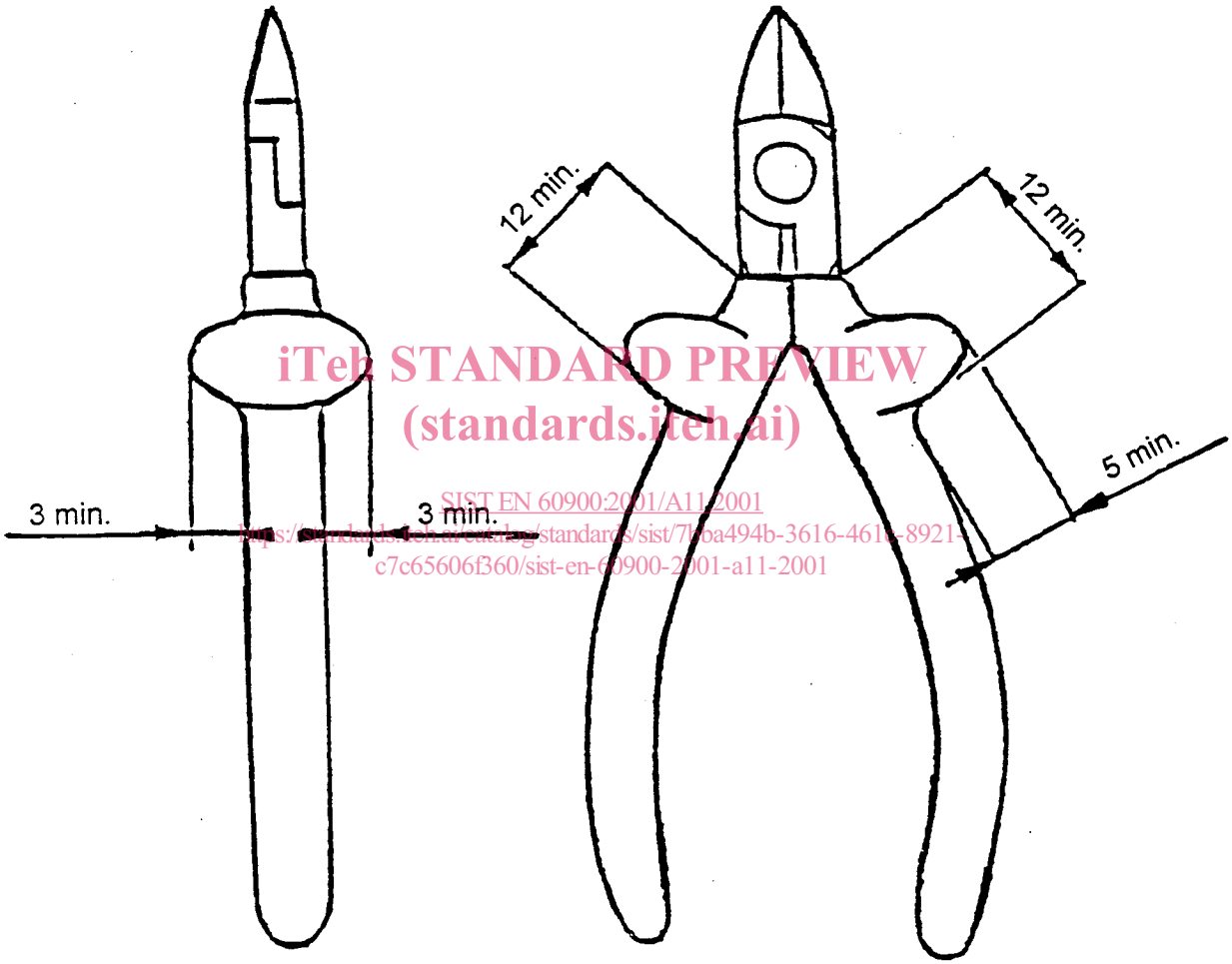


Figure 15 - Description du recouvrement isolant et des différentes configurations d'assemblage des outils pouvant être assemblés et conçus pour assurer la compatibilité de l'isolation entre différents fabricants (voir 3.1.8)
Figure 15 - Description of the insulating overlapping and different assemby configurations for tools capable of being assembled and designed to ensure compatibility of insulation between different manufacturers (see 3.1.8)



Dimensions en millimètres

Dimensions in millimetres

Figure 16 - Illustration d'isolation de pinces pour électronique (voir 3.2.2)
Figure 16 - Illustration of insulation of pliers and nippers for electronics (see 3.2.2)