



# SLOVENSKI STANDARD SIST EN 61235:2001

01-september-2001

**Delo pod napetostjo - Izolacijske prazne cevi za uporabo v elektrotehnik (IEC 61235:1993, spremenjen)**

Live working - Insulating hollow tubes for electrical purposes

Arbeiten unter Spannung - Isolierende hohle Rohre für elektrotechnische Zwecke

Travaux sous tension - Tubes creux isolants pour travaux électriques

**STANDARD PREVIEW**  
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**Ta slovenski standard je istoveten z: EN 61235:1995**

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**ICS:**

|           |   |   |
|-----------|---|---|
| 13.260    | Xæ•ç[ Á!^âÁ \ dã } ã<br>~ áæ[ { ÉÖ^ [ Á[ áÁ æ ^ç •ç | Protection against electric shock. Live working |
| 29.120.10 | Qzçç&â \ ^Á^çÁ æ<br>^ \ dã } ^Á æ ^ } ^             | Conduits for electrical purposes                |

**SIST EN 61235:2001**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61235**

August 1995

ICS 29.120.10; 13.340.20

Descriptors: Live working, safety device, characteristics, tests, insulating tube, hollow tube

English version

**Live working**  
**Insulating hollow tubes for electrical purposes**  
(IEC 1235:1993, modified)

Travaux sous tension  
Tubes creux isolants pour travaux  
électriques  
(CEI 1235:1993, modifiée)

Arbeiten unter Spannung  
Isolierte hohle Rohre für  
elektrotechnische Zwecke  
(IEC 1235:1993, modifiziert)

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This European Standard was approved by CENELEC on 1995-03-06. 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 Central Secretariat 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 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 the International Standard IEC 1235:1993, prepared by IEC TC 78, Tools for live working, together with common modifications prepared by the Technical Committee CENELEC TC 78, was submitted to the formal vote and was approved by CENELEC as EN 61235 on 1995-03-06.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-03-01

For products which have complied with the relevant national standard before 1996-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-03-01.

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C, D, E and ZA are normative and annex F is informative.

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International standard IEC 1235:1993 was approved by CENELEC as a European Standard with agreed common modifications as given below.

**COMMON MODIFICATIONS****Contents**

**Add:** 18 Quality assurance plan

**1 Scope**

**Add at the end:**

Other dimensions such as tube diameters 64 mm, 77 mm and 100 mm are under consideration. Other manufacturing methods are under consideration.

**3 Definitions**

**3.3.1 Add** "(see table 4, table 7 and table 9)" at the end of the subclause.

**3.3.2 Add** "(see table 5, table 7 and table 9)" at the end of the subclause.

**3.3.3 Add** "(see table 6 and table 8)" at the end of the subclause.  
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**9 Dielectric tests**

**9.1.1 Replace** "a trifluorotrchloroethane solution (CF<sub>2</sub>ClCFCl<sub>2</sub>)" by "ethyl alcohol".

**9.1.2 (Modification of the French text only)**

**Add** "(5 °C)" at the end of the last line.

**Add at the end of the subclause:**

NOTE: The test method of temperature measurement is under consideration.

**9.1.4 Add**, in table 3, "(5 °C)" after "no perceptible temperature rise".

**9.2.1 Replace** "a trifluorotrchloroethane solution" by "ethyl alcohol".

**9.2.3 Add** "(5 °C)" at the end of the last line.

**12 Routine tests**

Add "(5 °C)" after "- no perceptible temperature rise".

Add the following new clause 18:

**18 Quality assurance plan**

In order to assure the delivery of products that meet this standard, the manufacturer shall employ an approved quality assurance plan that complies with the provisions of the ISO 9000 series.

The quality assurance plan shall ascertain that the products meet the requirements contained in this standard.

In the absence of an accepted quality assurance plan as specified above the sampling tests contained in this standard shall be carried out (see annex E).

**Annexes****Annex E****iTeh STANDARD PREVIEW****(standards.iteh.ai)**

Replace table E.2 by:

Table E.2 Sampling plan for major defects

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| Batch size                        | Sample size | Number of defects for acceptance | Number of defects for rejection |
|-----------------------------------|-------------|----------------------------------|---------------------------------|
| 2 to 90<br>(300 to 13 500 m)      | 3           | 0                                | 1                               |
| 91 to 500<br>(13 501 to 75 000 m) | 13          | 1                                | 2                               |

NOTE 1: For a given batch, the sampling elementary unit is defined as equal to 150 m of tube with a well-defined type, diameter and category.

NOTE 2: The tests are to be carried out on parts of hollow tubes taken at random among the batch.

**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.

| <u>Publication</u> | <u>Year</u> | <u>Title</u>   | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|--------------|-------------|
| IEC 50(151)        | 1978        | International electrotechnical vocabulary<br>Chapter 151: Electrical and magnetic<br>devices               | -            | -           |
| IEC 60-1           | 1989        | High-voltage test techniques<br>Part 1: General definitions and test<br>requirements                       | HD 588.1 S1  | 1991        |
| IEC 212            | 1971        | Standard conditions for use prior to and<br>during the testing of solid electrical<br>insulating materials | HD 437 S1    | 1984        |
| IEC 410            | 1973        | Sampling plans and procedures for<br>inspection by attributes  | -            | -           |
| IEC 743            | 1983        | Terminology for tools and equipment to be<br>used in live working  | -            | -           |

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
1235

Première édition  
First edition  
1993-08

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Travaux sous tension –  
Tubes creux isolants pour travaux électriques

iTeh STANDARD PREVIEW

(Live working – iteh.ai)

Insulating hollow tubes for electrical purposes

SIST EN 61235:2001

<https://standards.iteh.ai/catalog/standards/sist/946cc00b-667a-4473-a8b9-0ad398adcc15/sist-en-61235-2001>

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIVE WORKING –  
INSULATING HOLLOW TUBES FOR ELECTRICAL PURPOSES

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

International Standard IEC 1235 has been prepared by IEC technical committee 78: Tools for live working.

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

| DIS      | Report on voting | Amendment to DIS | Report on voting |
|----------|------------------|------------------|------------------|
| 78(CO)45 | 78(CO)57         | 78(CO)60         | 78(CO)71         |

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

Annexes A to E form an integral part of this standard

Annex F is for information only.

# LIVE WORKING – INSULATING HOLLOW TUBES FOR ELECTRICAL PURPOSES

## SECTION 1: GENERAL

### 1 Scope

This International Standard is applicable to insulating hollow tubes made of synthetic materials and intended for tools and equipment for work on systems operating at voltages above 1 kV.

Separate special technical standards give details of tests for fittings and attachments to these hollow tube terminal parts or complete tools.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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IEC 50(151): 1978, *International Electrotechnical Vocabulary – Chapter 151: Electrical and magnetic devices*  
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IEC 60-1: 1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 212: 1971, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

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*

### 3 Definitions

For the purposes of this International Standard, the following definitions apply.

#### 3.1 Terms defined in accordance with IEC 50(151)

3.1.1 **type test:** A test performed on one or more devices made to a certain design to show that the design meets certain specifications. [IEV 151-04-15]

3.1.2 **routine test:** A test to which each individual device is subjected during or after manufacture to ascertain whether it complies with certain criteria. [IEV 151-04-16]