

SLOVENSKI STANDARD

SIST EN 61482-1-2:2015

01-april-2015

Nadomešča:

SIST EN 61482-1-2:2007

Delo pod napetostjo - Oblačila za zaščito pred temperaturno nevarnostjo električnega obloka - 1-2. del: Preskusne metode - 2. metoda: Določanje zaščitnega razreda pri obloku za material in oblačila z uporabo omejenega in usmerjenega obloka (preskus v zaboju)(IEC 61482-1-2:2014)

Live working - Protective clothing against the thermal hazards of an electric arc - Part 1-2: Test methods - Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)

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Ta slovenski standard je istoveten z: EN 61482-1-2:2014

ICS:

13.260	Varstvo pred električnim udarom. Delo pod napetostjo	Protection against electric shock. Live working
13.340.10	Varovalna obleka	Protective clothing

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61482-1-2

December 2014

ICS 13.220.40; 29.260; 29.260.99

Supersedes EN 61482-1-2:2007

English Version

**Live working - Protective clothing against the thermal hazards of
an electric arc - Part 1-2: Test methods - Method 2:
Determination of arc protection class of material and clothing by
using a constrained and directed arc (box test)
(IEC 61482-1-2:2014)**

Travaux sous tension - Vêtements de protection contre les
dangers thermiques d'un arc électrique - Partie 1-2: Méthodes
d'essai - Méthode 2: Détermination de la classe de protection
contre l'arc de matériaux et de vêtements au moyen d'un arc
dirigé et contraint (enceinte d'essai)
(CEI 61482-1-2:2014)

Arbeiten unter Spannung - Schutzkleidung gegen die
thermischen Gefahren eines elektrischen Lichtbogens -
Teil 1-2: Prüfverfahren - Verfahren 2: Bestimmung der
Lichtbogen-Schutzklasse des Materials und der Kleidung unter
Verwendung eines gerichteten Prüflichtbogens (Box-Test)
(IEC 61482-1-2:2014)

STANDARD PREVIEW
This European Standard was approved by CENELEC on 2014-11-13. 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.

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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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 78/1053/FDIS, future edition 2 of IEC 61482-1-2, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61482-1-2:2014.

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) 2015-08-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-11-13

This document supersedes EN 61482-1-2:2007.

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

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Endorsement notice

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[094f9680a461/sist-en-61482-1-2-2015](https://standards.iteh.ai/catalog/standards/sist/fc3a55ea-b71c-47b6-b103-094f9680a461/sist-en-61482-1-2-2015)

The text of the International Standard IEC 61482-1-2:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61482-1-1	NOTE	Harmonized as EN 61482-1-1.
ISO 3175-2	NOTE	Harmonized as EN ISO 3175-2.
ISO 6330	NOTE	Harmonized as EN ISO 6330.
ISO 13688:2013	NOTE	Harmonized as EN ISO 13688:2013 (not modified).
ISO 15797	NOTE	Harmonized as EN ISO 15797.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9151	1995	Protective clothing against heat and flame - Determination of heat transmission on exposure to flame	-	-

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IEC 61482-1-2

Edition 2.0 2014-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Live working – Protective clothing against the thermal hazards of an electric arc –

Part 1-2: Test methods – Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)

<https://standards.iteh.ai/catalog/standards/sist/fc3a55ea-b71c-47b6-b103-9d1b7620e51a/sist-en-61482-1-2:2015>

Travaux sous tension – Vêtements de protection contre les dangers thermiques d'un arc électrique –

Partie 1-2: Méthodes d'essai – Méthode 2: Détermination de la classe de protection contre l'arc de matériaux et de vêtements au moyen d'un arc dirigé et contraint (enceinte d'essai)

INTERNATIONAL
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COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

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ICS 13.220.40, 29.260, 29.260.99

ISBN 978-2-8322-1881-5

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CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Terms, definitions and symbols	6
3.1 Terms and definitions	6
3.2 Symbols and units used in this document	11
4 Principle of the test method	11
4.1 Material box test procedure	11
4.2 Garment box test procedure	11
5 Significance and use of the test method	12
6 Test apparatus	12
6.1 Test apparatus and test box	12
6.2 Material box test procedure	15
6.2.1 Arrangement of the material box test procedure	15
6.2.2 Test plate (panel) construction	16
6.2.3 Sensor construction	17
6.2.4 Sensor response	17
6.3 Garment box test procedure	17
6.3.1 Arrangement of the garment box test procedure	17
6.3.2 Mannequin construction	17
6.4 Electric supply and electrodes	18
6.4.1 Test circuit	18
6.4.2 Test circuit control	18
6.4.3 Electrodes	18
6.4.4 Fuse wire	18
6.5 Electric test arc characteristics	19
6.6 Measurement and data acquisition system	19
7 Operator safety	19
8 Specimen preparation	20
8.1 Description of the test specimens	20
8.1.1 Test specimens for material box test procedure	20
8.1.2 Test specimens for garment box test procedure	20
8.2 Pre-treatment by cleaning	20
8.3 Pre-conditioning of the test specimens	20
9 Calibration	20
9.1 Data acquisition system pre-calibration	20
9.2 Calorimeter calibration check	20
9.3 Arc exposure calibration	21
9.4 Calibration of the electric test circuit and testing	21
9.5 Confirmation of test apparatus setting	22
9.6 Preparing and conditioning of the box	22
10 Apparatus care and maintenance	22
10.1 Surface reconditioning of the sensors	22
10.2 Care of test plate and mannequin	23
10.3 Care of electrodes	23

11	Test procedures	23
11.1	Test parameters.....	23
11.2	Number of tests	23
11.3	Test conditions and initial temperature.....	24
11.4	Specimen mounting	24
11.4.1	Material box test procedure	24
11.4.2	Garment box test procedure	24
11.5	Specimen description.....	24
12	Interpretation of results.....	25
12.1	Heat transfer.....	25
12.1.1	Determining time zero.....	25
12.1.2	Plotting sensor response	25
12.1.3	Incident energy E_i	25
12.1.4	Sensor response versus Stoll curve.....	25
12.2	Visual inspection.....	25
12.3	Test result.....	26
12.3.1	Acceptance criteria of material box test procedure.....	26
12.3.2	Acceptance criteria of garment box test procedure	26
13	Test report.....	27
Annex A (informative)	Precision of the test method	28
Bibliography.....		29
Figure 1	– Test box.....	14
Figure 2	– Test set-up.....	15
Figure 3	– Test plate with sensors (calorimeters in mounting boards)	16
Table 1	– Test validity check range of direct exposure incident energy (permissible direct exposure incident energy range)	21
Table 2	– Test validity check range of arc energy (permissible arc energy range)	22
Table 3	– Test parameters for Classes 1 and 2	23
Table 4	– Acceptance criteria for tests on materials	26
Table 5	– Acceptance criteria for tests on garments.....	26
Table A.1	– Repeatability and reproducibility values of test procedure	28

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIVE WORKING – PROTECTIVE CLOTHING AGAINST THE THERMAL HAZARDS OF AN ELECTRIC ARC –

Part 1-2: Test methods – Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)

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 61482-1-2 has been prepared by IEC technical committee 78: Live working.

This second edition cancels and replaces the first edition, published in 2007. This edition constitutes a technical revision.

It includes the following significant technical changes with regard to the previous edition:

- new mean values of main control parameters *arc energy* and *incident energy* based on an extended statistical database consisting of parameter values measured in four laboratories;
- reduction of validity check ranges of main control parameters;

- determination of the *incident energy* by averaging the two *sensor* values of a test (instead of considering each single *sensor* value);
- determination of the heat curves of transmitted *incident energy* and an amendment to the *heat flux* acceptance criterion;
- information on precision (repeatability and reproducibility) of the test method;
- clarification of the scope;
- selection of the *arc protection classes* (test classes) by the amount of the *arc energy* and *incident energy* instead of the short-circuit current;
- permitting electrode design without bores;
- recommendations of the heat resistance *materials* to be used for the box and for the test plate;
- clarification of the conditions for cleaning and replacing the box;
- requirement for including in the test report the differences ΔE_i of the *transmitted energy* values to the Stoll limit value at t_{\max} and the information if the heat curves of transmitted *incident energy* exceed the *Stoll curve* during the *exposure time*;
- preconditioning of the samples according to manufacturer's instruction.

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

FDIS	Report on voting
78/1053/FDIS	78/1089/RVD

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

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

In this standard terms defined in Clause 3 appear in *italics*.

A list of all parts in the IEC 61482 series, published under the general title *Live working – Protective clothing against the thermal hazards of an electric arc*, can be found on the IEC website.

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

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

LIVE WORKING – PROTECTIVE CLOTHING AGAINST THE THERMAL HAZARDS OF AN ELECTRIC ARC –

Part 1-2: Test methods –

Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)

1 Scope

This part of IEC 61482 specifies procedures to test *material* and *garments* intended for use in heat and flame-resistant *clothing* for workers if there is an electric arc hazard. A directed and constrained *electric arc* in a test circuit is used to classify *material* and *clothing* in two defined *arc protection classes*.

This International Standard is not dedicated toward measuring the arc rating values (ATPV¹, ELIM² or EBT³). Procedures determining these arc rating values are prescribed in IEC 61482-1-1, using an open arc for testing.

Other effects than the thermal effects of an electric arc like noise, light emissions, pressure rise, hot oil, electric shock, the consequences of physical and mental shock or toxic influences are not covered by this standard.

Protective clothing for work intentionally using an *electric arc*, e.g. arc welding, plasma torch, is not covered by this standard.

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2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9151:1995, *Protective clothing against heat and flame – Determination of heat transmission on exposure to flame*

3 Terms, definitions and symbols

For the purposes of this document, the following terms, definitions and symbols apply.

3.1 Terms and definitions

3.1.1

arc current

I_{arc}

current actually flowing in the electric test circuit during *arc duration* (through the arc)

¹ ATPV = *arc thermal performance value*.

² ELIM= *incident energy limit*

³ EBT= *breakopen energy threshold*