SVENSK STANDARD SS-EN 61482-1-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2007-12-17	1	1 (1+28)	SEK TK 78

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Arbete med spänning – Kläder för skydd mot termiska risker orsakade av ljusbågar – Del 1-2: Provning – Metod 2: Bestämning av skyddsklass för tyg och klädesplagg genom provning med riktad ljusbåge

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)

Som svensk standard gäller europastandarden EN 61482-1-2:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61482-1-2:2007.

Nationellt förord

Europastandarden EN 61482-1-2:2007

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61482-1-2, First edition, 2007 - 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)**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-ENV 50354, utgåva 1, 2001, gäller ej fr o m 2007-12-17.

ICS 13.220.40; 29.260; 29.260.99

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61482-1-2

March 2007

ICS 13.220.40; 29.260; 29.260.99

Supersedes CLC/TS 50354:2003

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 61482-1-2:2007)

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 61482-1-2:2007)

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 61482-1-2:2007)

This European Standard was approved by CENELEC on 2007-03-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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

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Ref. No. EN 61482-1-2:2007 E

Foreword

The text of document 78/657/CDV, future edition 1 of IEC 61482-1-2, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC parallel Unique Acceptance Procedure and was approved by CENELEC as EN 61482-1-2 on 2007-03-01.

This European Standard supersedes CLC/TS 50354:2003.

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)	2007-12-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-03-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61482-1-2:2007 was approved by CENELEC as a European Standard without any modification.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60584-1	-[1)]	Thermocouples - Part 1: Reference tables	EN 60584-1	1995[2)]
ISO 3175-2	-[1)]	Textiles - Professional care, drycleaning and wetcleaning of fabrics and garments - Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene	EN ISO 3175-2	1998[2)]
ISO 6330	-[1)]	Textiles - Domestic washing and drying procedures for textile testing	EN ISO 6330	2000[2)]
ISO 9151	-[1)]	Protective clothing against heat and flame - Determination of heat transmission on exposure to flame	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

CONTENTS

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 methods to test material and garments intended for use in heat- and flame-resistant clothing for workers exposed to electric arcs. In contrast to the test methods in IEC 61482-1-1[1)] a directed and constrained electric arc in a low voltage circuit is used to classify material and clothing in defined arc protection classes.

The test methods specified in this document are aimed at rendering a decision whether arc thermal protection is met under defined conditions. Two protection classes are tested. Protection class 1 and protection class 2 are safety requirements covering actual risk potentials due to electric fault arcs.

NOTE 1 In practice there can be higher risks. A risk analysis should clarify the actual risk.

The test methods are not directed toward measuring the arc thermal performance value (ATPV). Methods determining the ATPV are prescribed in IEC 61482-1-1.

This standard specifies tests with which it is possible to evaluate materials and protective clothing based on the use of a directed and constrained electric arc under defined laboratory conditions (box-test). A practical scenario concerning test set-up and test conditions, electrical and constructional parameters is selected.

For the tests a low voltage procedure is used. The tests can optionally be carried out in two fixed test classes, selected by the amount of prospective short circuit current:

Class 1 4 kA;

Class 2 7 kA.

The defined duration of the electric arc is 500 ms in both test classes.

NOTE 2 These conditions represent e.g. low voltage environmental conditions during an electric fault.

Materials and clothing will be tested with two methods: the material box test method and the garment box test method.

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1) IEC 61482-1, Ed.1 (2002) is currently under revision. The next edition will be numbered IEC 61482-1-1.

The material box test method is used to measure and find material response to an arc exposure when tested in a flat configuration. A quantitative measurement of the arc thermal performance is made by means of the energy transmitted through the material.

The garment box test method is used to test the function of the protective clothing after an arc exposure, including all the garment findings, sewing tread, fastenings and other accessories; no heat flux will be measured.

Testing refers to the thermal arc effects; it does not apply to other effects like noise, light emissions, pressure rise, hot oil, electric shock, the consequences of physical and mental shock or toxic influences.

2 Normative references

The following referenced documents are indispensable for the application 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 60584-1, *Thermocouples – Part 1: Reference tables*

ISO 3175-2, *Textiles – Professional care, drycleaning and wetcleaning of fabrics and garments – Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene*

ISO 6330, *Textiles – Domestic washing and drying procedures for textile testing*

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