SVENSK STANDARD SS-EN 61111

Fastställd	Utgåva	Sida	Ansvarig kommitté
2009-09-28	1	1 (1+32)	SEK TK 78

Arbete med spänning – Isolerande matta

Live working –
Electrical insulating matting

Som svensk standard gäller europastandarden EN 61111:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61111:2009.

Nationellt förord

Europastandarden EN 61111:2009

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61111, Second edition, 2009 - Live working - Electrical insulating matting**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 13.260; 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

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

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 61111

June 2009

ICS 13.260; 29.260.99

Supersedes CLC/TS 61111:2006

English version

Live working - Electrical insulating matting

(IEC 61111:2009)

Travaux sous tension - Tapis isolants électriques (CEI 61111:2009)

Arbeiten unter Spannung - Elektrisch isolierende Matten (IEC 61111:2009)

This European Standard was approved by CENELEC on 2009-06-01. 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: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61111:2009 E

SEK Svensk Elstandard

Foreword

The text of document 78/784/FDIS, future edition 2 of IEC 61111, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61111 on 2009-06-01.

This European Standard supersedes CLC/TS 61111:2006.

EN 61111:2009 includes the following significant technical changes with regard to CLC/TS 61111:2006:

– general review of the requirements and test provisions;

– modification of the test procedure for slip resistance;

– specification of standard and alternative types of electrodes for the proof test;

– increase of the conditioning time for low temperature folding test to 4 hours;

– modification of the test procedures for low and extremely low temperature by replacing the dielectric proof test by a withstand test in the sanction;

– modification of the test procedures for acid and oil resistance by specifying the use of test pieces and by replacing the dielectric proof test by a withstand test in the sanction;

– specification of liquid 102 for the oil resistance test and harmonisation of the mechanical test sanction with the acid resistance test;

– preparation of the elements of evaluation of defects, and general application of EN 61318:2008;

– revision of existing annexes;

– deletion of Annexes D and F, not applicable according to EN 61318:2008;

– introduction of a new normative Annex F on classification of defects.

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)	2010-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61111:2009 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 standard indicated:

IEC 60743 + A1	NOTE Harmonized as EN 60743:2001 + A1:2008 (not modified).

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 60060-1	-[1)]	High-voltage test techniques - Part 1: General definitions and test requirements	HD 588.1 S1	1991[2)]
IEC 60060-2	-[1)]	High-voltage test techniques - Part 2: Measuring systems	EN 60060-2	1994[2)]
IEC 60068-1	-[1)]	Environmental testing - Part 1: General and guidance	EN 60068-1	1994[2)]
IEC 60212	1971	Standard conditions for use prior to and during the testing of solid electrical insulating materials	HD 437 S1	1984
IEC 60417	Data-base	Graphical symbols for use on equipment	-	-
IEC 61318	-[1)]	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	2008[2)]
IEC 61477	-[1)]	Live working - Minimum requirements for the utilization of tools, devices and equipment	EN 61477	2009[2)]
ISO 2592	-[1)]	Determination of flash and fire points - Cleveland open cup method	EN ISO 2592	2001[2)]
ISO 2977	-[1)]	Petroleum products and hydrocarbon solvents - Determination of aniline point and mixed aniline point	-	-
ISO 3104	-[1)]	Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity	EN ISO 3104	1996[2)]
ISO 5904	1981	Gymnastic equipment - Landing mats and surfaces for floor exercises - Determination of resistance to slipping	-	-
ASTM D 3767	2003	Standard Practice for Rubber - Measurement of Dimensions	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

CONTENTS

INTRODUCTION

This International Standard has been prepared according to the requirements of IEC 61477 where applicable.

The product covered by this standard 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, and occur at the global, regional or local level.

Except for a disposal statement in the instructions for use, this standard does not include requirements and test provisions for the manufacturers of the product, or recommendations to the users of the product for environmental improvement. However, all parties intervening in its design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.

LIVE WORKING – ELECTRICAL INSULATING MATTING

1 Scope

This International Standard is applicable to electrical insulating matting made of elastomer for use as a floor covering for the electrical protection of workers on electrical installations.

NOTE 1 For a.c. electrical classification, as well as d.c. use, see 4.2.

NOTE 2 This document gives a.c. test provisions. There is limited history for use in d.c. applications.

NOTE 3 See Annex A for suggested maximum voltage use.

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

IEC 60060-2, *High-voltage test techniques – Part 2: Measuring systems*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60212:1971, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 60417, *Graphical symbols for use on 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 2592, *Determination of flash and fire points – Cleveland open cup method*

ISO 2977, *Petroleum products and hydrocarbon solvents – Determination of aniline point and mixed aniline point*

ISO 3104, *Petroleum products – Transparent and opaque liquids – Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 5904:1981, *Gymnastic equipment – Landing mats and surfaces for floor exercises – Determination of resistance to slipping*

ASTM D 3767:2003 (reapproved 2008), *Standard practice for rubber – Measurement of dimensions*