SVENSK STANDARD SS-EN 61241-18

Fastställd	Utgåva	Sida	Ingår i
2007-01-15	1	1 (1+32)	SEK Område 31

Svenska Elektriska Kommissionen, SEK

Elektrisk utrustning för användning vid förekomst av brännbart damm – Del 18: Utförande med ingjutning ”mD”

Electrical apparatus for use in the presence of combustible dust – Part 18: Protection by encapsulation "mD"

Som svensk standard gäller europastandarden EN 61241-18:2004. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61241-18:2004.

Nationellt förord

Europastandarden EN 61241-18:2004

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 61241-18, First edition, 2004 - Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation "mD"**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden skall användas tillsammans med SS-EN 61241-0.

ICS 29.260.20

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK, som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@sekom.se. *Internet*: www.sekom.se

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

Svenska Elektriska Kommissionen, SEK, 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.

SEK
Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

EUROPEAN STANDARD **EN 61241-18**

NORME EUROPÉENNE

EUROPÄISCHE NORM November 2004

ICS 29.260.20

English version

Electrical apparatus for use in the presence of combustible dust
Part 18: Protection by encapsulation "mD"
(IEC 61241-18:2004)

Matériels électriques pour utilisation en présence de poussières combustibles
Partie 18: Protection par encapsulage "mD"
(CEI 61241-18:2004)

Elektrische Betriebsmittel zur Verwendung in Bereichen mit brennbarem Staub
Teil 1: Schutz durch Vergusskapselung "mD"
(IEC 61241-18:2004)

This European Standard was approved by CENELEC on 2004-10-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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

Ref. No. EN 61241-18:2004 E

Foreword

The text of document 31H/176/FDIS, future edition 1 of IEC 61241-18, prepared by SC 31H, Apparatus for use in the presence of combustible dust, of IEC TC 31, Electrical apparatus for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61241-18 on 2004-10-01.

This standard is to be used in conjunction with EN 61241-0 *).

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)	2005-07-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-10-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive(s). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61241-18:2004 was approved by CENELEC as a European Standard without any modification.

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*) In preparation.

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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60079-7	2001	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety "e"	EN 60079-7	2003
IEC 60079-11	1999	Part 11: Intrinsic safety "i"	-	-
IEC 60086-1	- [1)]	Primary batteries Part 1: General	EN 60086-1	2001 [2)]
IEC 60127	Series	Miniature fuses	EN 60127	Series
IEC 60243-1	- [1)]	Electrical strength of insulating materials - Test methods Part 1: Tests at power frequencies	EN 60243-1	1998 [2)]
IEC 60285	1993	Alkaline secondary cells and batteries - Sealed nickel-cadmium cylindrical rechargeable single cells	EN 60285 [3)]	1994
IEC 60622	- [1)]	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-cadmium prismatic rechargeable single cells	EN 60622	2003 [2)]
IEC 60664-1	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests		
+ A1	2000			
+ A2	2002		EN 60664-1	2003
IEC 60691	- [1)]	Thermal-links - Requirements and application guide	EN 60691	2003 [2)]
IEC 61150	- [1)]	Alkaline secondary cells and batteries - Sealed nickel-cadmium rechargeable monobloc batteries in button cell design	EN 61150	1993 [2)]

1) Undated reference.

2) Valid edition at date of issue.

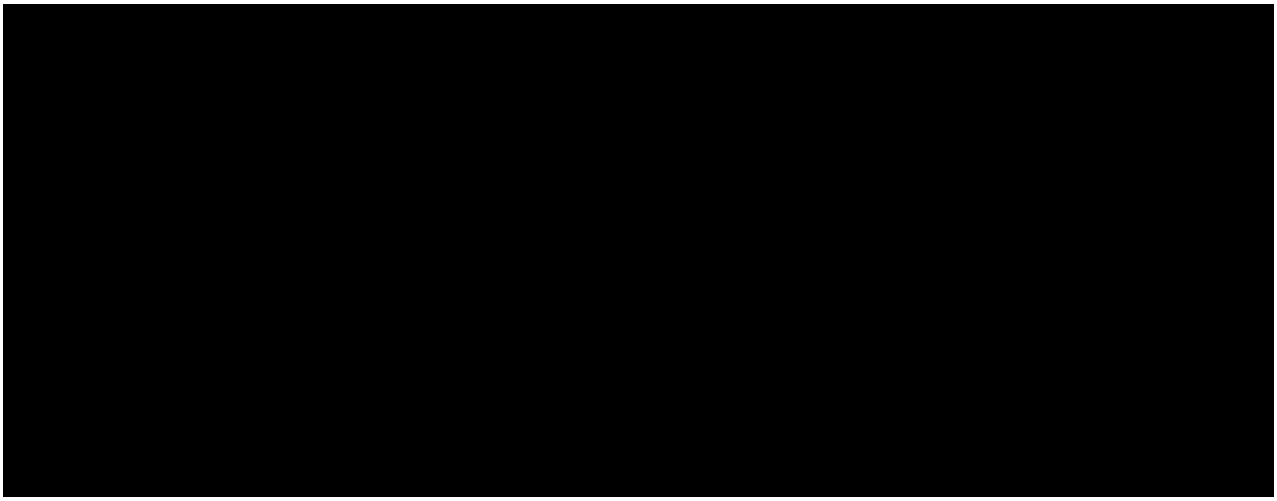
3) EN 60285 is superseded by EN 61951-1:2003 which is based on IEC 61951-1:2003.

Publication	Year	Title	EN/HD	Year
IEC 61241-0	- [1)]	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements	-	-
IEC 61241-1	- [1)]	Electrical apparatus for use in the presence of combustible dust Part 1: Protection by enclosures "tD"	EN 61241-1	2004 [2)]
IEC 61241-11	- [4)]	Part 11: Intrinsically safe apparatus 'iD'	-	-
IEC 61436	1998	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-metal hydride rechargeable single cells	EN 61436 [5)]	1998
IEC 61558-2-6	- [1)]	Safety of power transformers, power supply units and similar Part 2-6: Particular requirements for safety isolating transformers for general use	EN 61558-2-6	1997 [2)]
IEC 61960-1	- [1)]	Secondary lithium cells and batteries for portable applications Part 1: Secondary lithium cells	EN 61960-1	2001 [2)]
IEC 62326-4-1	- [1)]	Printed boards Part 4: Rigid multilayer printed boards with interlayer connections - Sectional specification -- Section 1: Capability Detail Specification - Performance levels A, B and C	EN 62326-4-1	1997 [2)]
ISO 62	1999	Plastics - Determination of water absorption	EN ISO 62	1999
ANSI/UL 248-1	1995	Standard for low-voltage fuses Part 1: General requirements	-	-
ANSI/UL 746B	2000	Polymeric Materials - Long-Term Property Evaluations	-	-

[4)] To be published.

[5)] EN 61436 is superseded to EN 61951-2:2000, which is based on IEC 61951-2:2003.

Annex ZZ



CONTENTS

ELECTRICAL APPARATUS FOR USE IN THE PRESENCE OF COMBUSTIBLE DUST –

Part 18: Protection by encapsulation “mD”

1 Scope

This standard is to be read in conjunction with IEC 61241-0, the requirements of which apply to electrical apparatus protected by encapsulation and surface temperature limitation unless specifically excluded.

This part of IEC 61241 is applicable to electrical apparatus protected by encapsulation type of protection “mD" and surface temperature limitation for use in areas where combustible dust may be present in quantities which could lead to a fire or explosion hazard. It specifies requirements for design, construction and testing of electrical apparatus, parts of electrical apparatus and Ex components where the rated voltage does not exceed 10 kV.

NOTE 1 The actual working voltage may exceed the value given above by up to 10 %.

NOTE 2 IEC 61241-14 (“Electrical apparatus for use in the presence of combustible dust – Part 14: Selection and installation”) gives guidance on the selection and installation of the apparatus. Apparatus within the scope of this standard may also be subjected to additional requirements in other standards – for example, IEC 60079-0 (“Electrical apparatus for explosive gas atmospheres - Part 0: General requirements”).

The application of electrical apparatus in atmospheres which may contain explosive gas as well as combustible dust, whether simultaneously or separately, requires additional protective measures.

This standard does not apply to dusts of explosives which do not require atmospheric oxygen for combustion, or to pyrophoric substances.

This standard is not applicable to electrical apparatus intended for use in underground parts of mines as well as those parts of surface installations of such mines endangered by firedamp and/or combustible dust. This standard does not take account of any risk due to an emission of flammable or toxic gas from the dust.

This standard does not include other types of protection and is only applicable to protection by encapsulation.

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 60079-7:2001, *Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety "e“*

IEC 60079-11:1999, *Electrical apparatus for explosive gas atmospheres – Part 11: Intrinsic safety "i“*

IEC 60086-1, *Primary batteries – Part 1: General*