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Explosiv atmosfär – Del 18: Utrustning i utförande med ingjutning "m"

*Explosive atmospheres –
Part 18: Equipment protection by encapsulation "m"*

Som svensk standard gäller europastandarden EN 60079-18:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60079-18:2009.

Nationellt förord

Europastandarden EN 60079-18:2009

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60079-18, Third edition, 2009 - Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"**

jämte

Corrigendum, June 2009

utarbetat inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60079-0.

Tidigare fastställd svensk standard SS-EN 60079-18, utgåva 1, 2004, SS-EN 60079-18 C1, utgåva 1, 2006 och SS-EN 61241-18, utgåva 1, 2007, gäller ej fr o m 2012-10-01.

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.

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

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English version

**Explosive atmospheres -
Part 18: Equipment protection by encapsulation "m"
(IEC 60079-18:2009 + corrigendum 2009)**

Atmosphères explosives -
Partie 18: Protection du matériel
par encapsulage "m"
(CEI 60079-18:2009 + corrigendum 2009)

Explosionsfähige Atmosphäre -
Teil 18: Geräteschutz
durch Vergusskapselung "m"
(IEC 60079-18:2009 + Corrigendum 2009)

This European Standard was approved by CENELEC on 2009-10-01. 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, 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

Foreword

The text of document 31/784/FDIS, future edition 3 of IEC 60079-18, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-18 on 2009-10-01.

This European Standard supersedes EN 60079-18:2004 + corrigendum April 2006 and EN 61241-18:2004.

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) 2010-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-10-01

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 ATEX (94/9/EC). See Annex ZZ.

CENELEC/TC 31 as the responsible committee has concluded that this new edition of EN 60079-18 does not contain substantial changes regarding the ESRs.

The State of the Art is included in Annex ZY "*Significant changes between this European Standard and EN 60079-18:2004*".

Annexes ZA, ZY and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60079-18:2009 + corrigendum June 2009 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 60079-1	NOTE	Harmonized as EN 60079-1:2007 (not modified).
IEC 60079-2	NOTE	Harmonized as EN 60079-2:2007 (not modified).
IEC 60079-5	NOTE	Harmonized as EN 60079-5:2007 (not modified).
IEC 60079-6	NOTE	Harmonized as EN 60079-6:2007 (not modified).
IEC 60079-10	NOTE	Harmonized as EN 60079-10:2003 (not modified).
IEC 60079-14	NOTE	Harmonized as EN 60079-14:2008 (not modified).
IEC 60079-26	NOTE	Harmonized as EN 60079-26:2007 (not modified).
IEC 60079-28	NOTE	Harmonized as EN 60079-28:2007 (not modified).
IEC 60086-1	NOTE	Harmonized as EN 60086-1:2007 (not modified).
IEC 60622	NOTE	Harmonized as EN 60622:2003 (not modified).
IEC 60664-1	NOTE	Harmonized as EN 60664-1:2007 (not modified).
IEC 61241-10	NOTE	Harmonized as EN 61241-10:2004 (not modified).
IEC 61951-1	NOTE	Harmonized as EN 61951-1:2003 (not modified).

IEC 61951-2 NOTE Harmonized as EN 61951-2:2003 (not modified).

IEC 61960-1 NOTE Harmonized as EN 61960-1:2001 (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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079-0	- ¹⁾	Explosive atmospheres - Part 0: Equipment - General requirements	EN 60079-0	2009 ²⁾
IEC 60079-7	- ¹⁾	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7	2007 ²⁾
IEC 60079-11	- ¹⁾	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	EN 60079-11	2007 ²⁾
IEC 60079-15	- ¹⁾	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	EN 60079-15	200X ³⁾
IEC 60079-26	- ¹⁾	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	EN 60079-26	2007 ²⁾
IEC 60079-31	- ¹⁾	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	EN 60079-31	2009 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 60691	- ¹⁾	Thermal-links - Requirements and application guide	EN 60691	2003 ²⁾
IEC 60730-2-9 (mod)	- ¹⁾	Automatic electrical controls for household and similar use - Part 2-9: Particular requirements for temperature sensing controls	-	-
IEC 60738-1	- ¹⁾	Thermistors - Directly heated positive temperature coefficient - Part 1: Generic specification	EN 60738-1	2006 ²⁾
IEC 61241-11	- ¹⁾	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	EN 61241-11	2006 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

³⁾ To be ratified.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	2009 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	- ¹⁾	Plastics - Determination of water absorption	-	-
ANSI/UL 248-1	- ¹⁾	Standard for low-voltage fuses - Part 1: General requirements	-	-
ANSI/UL 746B	- ¹⁾	Standard for polymeric materials - Long-term property evaluations	-	-

CONTENTS

1	Scope.....	6
2	Normative references	6
3	Terms and definitions	7
4	General	9
4.1	Level of protection (Equipment protection level (EPL))	9
4.2	Additional requirements for level of protection “ma”	9
4.3	Rated voltage and prospective short circuit current	9
5	Requirements for compounds	9
5.1	General	9
5.2	Specification	9
5.3	Properties of the compound.....	10
5.3.1	Water absorption	10
5.3.2	Dielectric strength	10
6	Temperatures	10
6.1	General.....	10
6.2	Determination of the limiting temperature	10
6.2.1	Maximum surface temperature.....	10
6.2.2	Temperature of the compound	10
6.3	Temperature limitation.....	10
7	Constructional requirements.....	11
7.1	General.....	11
7.2	Determination of faults	11
7.2.1	Fault examination	11
7.2.2	Components considered as not subject to fail	12
7.2.3	Isolating components.....	12
7.2.4	Infallible separation distances.....	12
7.3	Free space in the encapsulation	13
7.3.1	Group III “m” equipment.....	13
7.3.2	Group I and Group II “m” equipment	14
7.4	Thickness of the compound	15
7.4.1	“m” equipment	15
7.4.2	Windings for electrical machines	17
7.4.3	Rigid, multi-layer printed wiring boards with through connections	17
7.5	Switching contacts	18
7.5.1	Level of protection “ma”	18
7.5.2	Level of protection “mb”	18
7.5.3	Level of protection “mc”	18
7.6	External connections	19
7.6.1	General	19
7.6.2	Additional requirements for “ma” equipment	19
7.7	Protection of bare live parts.....	19
7.8	Cells and batteries	19
7.8.1	General	19
7.8.2	Prevention of gassing	19
7.8.3	Protection against inadmissible temperatures and damage to the cells	20

7.8.4	Reverse current.....	20
7.8.5	Current limitation	20
7.8.6	Protection against the polarity inversion and deep discharge of the cells	20
7.8.7	Charging of cells or batteries	21
7.8.8	Requirements for control safety devices for cells or batteries	21
7.9	Protective devices	21
7.9.1	General	21
7.9.2	Electrical protective devices	22
7.9.3	Thermal protective devices	23
7.9.4	Built-in protective devices	23
8	Type tests	23
8.1	Tests on the compound	23
8.1.1	Water absorption test	23
8.1.2	Dielectric strength test.....	24
8.2	Tests on the apparatus.....	24
8.2.1	Test sequence	24
8.2.2	Maximum temperature	24
8.2.3	Thermal endurance test.....	24
8.2.4	Dielectric strength test.....	25
8.2.5	Cable pull test	25
8.2.6	Pressure test for Group I and Group II electrical equipment.....	26
8.2.7	Test for resettable thermal protective device	26
8.2.8	Sealing test for build-in protective devices.....	27
9	Routine verifications and tests.....	27
9.1	Visual inspections	27
9.2	Dielectric strength test.....	27
10	Marking	27
	Annex A (informative) Basic requirements for compounds for “m” equipment	29
	Annex B (normative) Allocation of test samples	30
	Bibliography.....	31
	Figure 1 – Dimensional key for thickness through the compound	16
	Figure 2 – Minimum distances for multi-layer printed wiring boards.....	18
	Figure 3 – Fitting of blocking diodes	20
	Figure A.1 – Basic requirements for compounds for “m” equipment.....	29
	Table 1 – Distances through the compound	13
	Table 2 – Minimum thickness of compound adjacent to free space for Group III “m” equipment.....	13
	Table 3 – Minimum thickness of compound adjacent to free space for Group I and Group II “m” equipment.....	14
	Table 4 – Thickness of the compound	16
	Table 5 – Minimum distances for multi-layer printed wiring boards.....	17
	Table 6 – Test pressure	26
	Table B.1 – Allocation of test samples	30

EXPLOSIVE ATMOSPHERES –

Part 18: Equipment protection by encapsulation “m”

1 Scope

This part of IEC 60079 gives the specific requirements for the construction, testing and marking of electrical equipment, parts of electrical equipment and Ex components with the type of protection encapsulation “m” intended for use in explosive gas atmospheres or explosive dust atmospheres.

This part applies only for encapsulated electrical equipment, encapsulated parts of electrical equipment and encapsulated Ex components (hereinafter always referred to as “m” equipment) where the rated voltage does not exceed 11 kV.

The application of electrical equipment in atmospheres, which may contain explosive gas as well as combustible dust simultaneously may require 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 does not take account of any risk due to an emission of flammable or toxic gas from the dust.

This standard supplements and modifies the general requirements of IEC 60079-0. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard shall take precedence.

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 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-7, *Explosive atmospheres – Part 7: Equipment protection by increased safety “e”*

IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”*

IEC 60079-15, *Explosive atmospheres – Part 15: Equipment protection by type of protection “n”*

IEC 60079-26, *Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga*

IEC 60079-31, *Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosures “t”*

IEC 60127 (all parts), *Miniature fuses*

IEC 60243-1, *Electrical strength of insulating material – Test methods – Part 1: Tests at power frequencies*

IEC 60691, *Thermal-links – Requirements and application guide*

IEC 60730-2-9, *Automatic electrical controls for household and similar use – Part 2-9: Particular requirements for temperature sensing controls*

IEC 60738-1, *Thermistors – Directly heated positive temperature coefficient – Part 1: Generic specification*

IEC 61241-11, *Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety ‘iD’*

IEC 61558-2-6, *Safety of power transformers, power supply units and similar – Part 2: Particular requirements for safety isolating transformers for general use*

IEC 62326-4-1, *Printed boards – Part 4: Rigid multilayer printed boards with interlayer connections – Sectional specification – Section 1: Capability detail specification – Performance levels A, B and C*

ISO 62, *Plastics – Determination of water absorption*

ANSI/UL 248-1, *Standard for low-voltage fuses – Part 1: General requirements*

ANSI/UL 746B, *Standard for polymeric materials – Long term property evaluations*

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