

## **Elektrisk utrustning för områden med explosiv gasatmosfär – Del 18: Utförande med ingjutning "m"**

*Electrical apparatus for explosive gas atmospheres –*

*Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus*

Som svensk standard gäller europastandarden EN 60079-18:2004. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60079-18:2004.

### **Nationellt förord**

Europastandarden EN 60079-18:2004

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60079-18, Second edition, 2004 - Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus**

utarbetad inom International Electrotechnical Commission, IEC.

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

Tidigare fastställd svensk standard SS-EN 50028, utgåva 1, 1989, gäller ej fr o m 2007-04-01.

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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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#### **SEK**

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EUROPEAN STANDARD

**EN 60079-18**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2004

ICS 29.260.20

Supersedes EN 50028:1987

English version

**Electrical apparatus for explosive gas atmospheres  
Part 18: Construction, test and marking of type of protection  
encapsulation "m" electrical apparatus  
(IEC 60079-18:2004)**

Matériel électrique pour atmosphères  
explosives gazeuses  
Partie 18: Construction, essais  
et marquage des matériels électriques  
du type de protection par encapsulage "m"  
(CEI 60079-18:2004)

Elektrische Betriebsmittel für  
gasexplosionsgefährdete Bereiche  
Teil 18: Konstruktion, Prüfung und  
Kennzeichnung elektrischer Betriebsmittel  
mit der Schutzart Vergusskapselung "m"  
(IEC 60079-18:2004)

This European Standard was approved by CENELEC on 2004-04-01. 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**

## Foreword

The text of document 31/482/FDIS, future edition 2 of IEC 60079-18, prepared by IEC TC 31, Electrical apparatus for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-18 on 2004-04-01.

This European Standard supersedes EN 50028:1987.

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) 2005-01-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2007-04-01

This European Standard was prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and supports the essential requirements of Directive 94/9/EC.

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60079-18:2004 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 Where 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	- <sup>1)</sup>	Electrical apparatus for explosive gas atmospheres Part 0: General requirements	EN 60079-0 + corr. March	2004 <sup>2)</sup> 2004 <sup>2)</sup>
IEC 60079-7	2001	Part 7: Increased safety "e"	EN 60079-7	2003
IEC 60079-11	1999	Part 11: Intrinsic safety "i"	-	-
IEC 60079-26	- <sup>1)</sup>	Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus	EN 60079-26	
IEC 60086-1	- <sup>1)</sup>	Primary batteries Part 1: General	EN 60086-1	2001 <sup>2)</sup>
IEC 60127	Series	Miniature fuses	EN 60127	Series
IEC 60243-1	- <sup>1)</sup>	Electrical strength of insulating materials - Test methods Part 1: Tests at power frequencies	EN 60243-1	1998 <sup>2)</sup>
IEC 60622	- <sup>1)</sup>	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Sealed nickel-cadmium prismatic rechargeable single cells	EN 60622	2003 <sup>2)</sup>
IEC 60664-1 + A1 + A2	1992 2000 2002	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2003
IEC 60691	- <sup>1)</sup>	Thermal-links - Requirements and application guide	EN 60691	2003 <sup>2)</sup>
IEC 61150	- <sup>1)</sup>	Alkaline secondary cells and batteries - Sealed nickel-cadmium rechargeable monobloc batteries in button cell design	EN 61150	1993 <sup>2)</sup>

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1) Undated reference.

2) Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61558-2-6	- <sup>1)</sup>	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 <sup>2)</sup>
IEC 61951-1	- <sup>1)</sup>	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells Part 1: Nickel-cadmium	EN 61951-1	2003 <sup>2)</sup>
IEC 61951-2	- <sup>1)</sup>	Part 2: Nickel-metal hydride	EN 61951-2	2003 <sup>2)</sup>
IEC 61960-1	- <sup>1)</sup>	Secondary lithium cells and batteries for portable applications Part 1: Secondary lithium cells	EN 61960-1	2001 <sup>2)</sup>
IEC 62326-4-1	- <sup>1)</sup>	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 <sup>2)</sup>
ISO 62	- <sup>1)</sup>	Plastics - Determination of water absorption	EN ISO 62	1999 <sup>2)</sup>
ANSI/UL 248-1	- <sup>1)</sup>	Standard for low-voltage fuses Part 1: General requirements	-	-

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## **ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES –**

### **Part 18: Construction, test and marking of type of protection encapsulation “m” electrical apparatus**

#### **1 Scope**

This part of IEC 60079 gives the specific requirements for the construction, testing and marking of electrical apparatus, parts of electrical apparatus and Ex components with the type of protection encapsulation “m”.

This part of IEC 60079 only applies for encapsulated electrical apparatus, encapsulated parts of electrical apparatus and encapsulated Ex components (hereinafter always referred to as “m” apparatus) where the rated voltage does not exceed 10 kV with a relative tolerance of +10 %.

This standard supplements the general requirements in IEC 60079-0.

#### **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:—, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

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 60079-26:—, *Electrical apparatus for explosive gas atmospheres – Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus*

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

IEC 60127 (all parts), *Miniature fuses*

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

IEC 60622, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Sealed nickel-cadmium prismatic rechargeable single cells*

IEC 60664-1:1992, *Insulation co-ordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*  
Amendment 1 (2000)  
Amendment 2 (2002)

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

IEC 61150, *Alkaline secondary cells and batteries – Sealed nickel cadmium rechargeable monobloc batteries in button cell design*

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 61951-1, *Secondary cells and batteries containing alkaline and other non-acid electrolytes – Portable sealed rechargeable single cells – Part 1: Nickel-cadmium*

IEC 61951-2, *Secondary cells and batteries containing alkaline and other non-acid electrolytes – Portable sealed rechargeable single cells – Part 2: Nickel-metal hydride*

IEC 61960-1, *Secondary lithium cells and batteries for portable applications – Part 1: Secondary lithium cells*

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*

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■ [REDACTED]