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SIST EN 60079-5:2008

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English version

**Explosive atmospheres -  
Part 5: Equipment protection by powder filling "q"  
(IEC 60079-5:2007)**

Atmosphères explosives -  
Partie 5: Protection du matériel  
par remplissage pulvérulent "q"  
(CEI 60079-5:2007)

Explosionsfähige Atmosphäre -  
Teil 5: Geräteschutz durch  
Sandkapselung "q"  
(IEC 60079-5:2007)

**STANDARD PREVIEW**  
This European Standard was approved by CENELEC on 2007-11-01. 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**

## Foreword

The text of document 31/675/FDIS, future edition 3 of IEC 60079-5, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-5 on 2007-11-01.

This European Standard supersedes EN 50017:1998.

This European Standard is to be read in conjunction with EN 60079-0:2006.

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) 2008-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-11-01

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. 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 60079-5:2007 was approved by CENELEC as a European Standard without any modification.

[SIST EN 60079-5:2008](#)

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60664-1	NOTE	Harmonized as EN 60664-1:2007 (not modified).
IEC 60079	NOTE	Harmonized in EN 60079 series (partly modified).

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079-0 (mod)	2004	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements	EN 60079-0	2006
IEC 60079-1	– <sup>1)</sup>	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	EN 60079-1	2007 <sup>2)</sup>
IEC 60079-7	– <sup>1)</sup>	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7	2007 <sup>2)</sup>
IEC 60079-11	– <sup>1)</sup>	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	EN 60079-11	2007 <sup>2)</sup>
IEC 60529	– <sup>1)</sup>	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 <sup>2)</sup> 1993
ISO 2591-1	– <sup>1)</sup>	Test sieving - Part 1: Methods using test sieves of woven wire cloth and perforated metal plate	–	–
ISO 3310-1	– <sup>1)</sup>	Test sieves - Technical requirements and testing - Part 1: Test sieves of metal wire cloth	–	–
ISO 3310-2	– <sup>1)</sup>	Test sieves - Technical requirements and testing - Part 2: Test sieves of perforated plates	–	–

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

## **Annex ZZ** (informative)

### **Coverage of Essential Requirements of EC Directives**

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only the following essential requirements out of those given in Annex II of the EC Directive 94/9/EC:

- ER 1.0.1, ER 1.0.2, ER 1.0.3, ER 1.0.5, ER 1.0.6;
- ER 1.1 (partly);
- ER 1.2.1 (partly), ER 1.2.2 (partly), ER 1.2.3, ER 1.2.8;
- ER 1.3.1;
- ER 1.5.3;
- ER 1.6.4;
- ER 2.0.2.1;
- ER 2.2.1.1, ER 2.2.1.2.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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INTERNATIONALE  
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STANDARD

CEI  
IEC

60079-5

Troisième édition  
Third edition  
2007-03

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**Atmosphères explosives –**

**Partie 5:  
Protection du matériel par remplissage  
pouvant être explosif «q»**

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**Explosive atmospheres –**

**Part 5: [SIST EN 60079-5:2008](https://standards.iteh.ai/catalog/standards/sist/en-60079-5:2008)**

**Equipment protection by powder filling «q»**

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## CONTENTS

FOREWORD.....	5
1 Scope.....	9
2 Normative references .....	9
3 Terms and definitions .....	11
4 Constructional requirements .....	11
4.1 Enclosure .....	11
4.2 Filling material.....	13
4.3 Distances .....	15
4.4 Materials used for support of energized parts .....	17
4.5 External field-wiring connections .....	17
4.6 Capacitors.....	17
4.7 Cells and batteries .....	17
4.8 Temperature limitations .....	19
4.9 Temperature limitations under fault conditions.....	19
5 Verifications and tests .....	25
5.1 Type verifications and tests.....	25
5.2 Routine verifications and tests.....	27
6 Marking .....	29
7 Instructions.....	29
Annex A (informative) Introduction of an alternative risk assessment method encompassing 'equipment protection levels' for Ex equipment .....	33
Bibliography.....	43
Figure 1 – Test arrangement for the dielectric strength test of the filling material .....	31
Table 1 – Distances through the filling material.....	15
Table 2 – Creepage distances and distances through filling material .....	23
Table A.1 – Traditional relationship of EPLs to zones (no additional risk assessment) .....	37
Table A.2 – Description of risk of ignition protection provided .....	39

SIST EN 60079-5:2008

Annex A (informative) Introduction of an alternative risk assessment method encompassing 'equipment protection levels' for Ex equipment

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## EXPLOSIVE ATMOSPHERES –

## Part 5: Equipment protection by powder filling “q”

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60079-5 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This third edition cancels and replaces the second edition, published in 1997, and its amendment (2003), and constitutes a technical revision.

This part is to be used in conjunction with IEC 60079-0:2004, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*.

The significant changes with respect to the previous edition are listed below:

- all requirements for third-party certification removed;
- requirements for external connections added ;
- all requirements for cable glands deleted as they have been transferred to 60079-0;
- specific requirements for cells and batteries introduced ;

- added relaxation requirements on required faults for fuse-protected equipment;
- added requirements for instructions.

The text of this standard is based on the following documents:

FDIS	Report on voting
31/675/FDIS	31/689/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60079 series, under the general title *Explosive atmospheres*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of a new edition.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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## EXPLOSIVE ATMOSPHERES –

### Part 5: Equipment protection by powder filling “q”

#### 1 Scope

This part of IEC 60079 contains specific requirements for the construction, testing and marking of electrical equipment, parts of electrical equipment and Ex components in the type of protection powder filling “q”, intended for use in explosive gas atmospheres.

NOTE 1 Electrical equipment and Ex components protected by powder filling “q” may contain electronic circuits, transformers, protection fuses, relays, intrinsically safe electrical apparatus, associated electrical apparatus, switches, etc.

NOTE 2 Type of protection powder filling “q” provides equipment protection level (EPL) Gb. For further information, see Annex A.

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 will take precedence.

This standard applies to electrical equipment, parts of electrical equipment and Ex components with:

- a rated supply current less than or equal to 16 A;
- a rated supply voltage less than or equal to 1 000 V;
- a rated power consumption less than or equal to 1 000 W.

#### 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 60079-0:2004, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

IEC 60079-1, *Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosure “d”*

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 60529, *Degrees of protection provided by enclosures (IP Code)*

ISO 3310-1, *Test sieves – Technical requirements and testing – Part 1: Test sieves of metal wire cloth*

ISO 3310-2, *Test sieves – Technical requirements and testing – Part 2: Test sieves of perforated plates*