

საქართველოს სტანდარტი

ფეთქებადი გარემო - ნაწილი 25: ნაპერწკალუსაფრთხო ელექტრო სისტემა
იეკ 60079-25:2010

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

სსტ ენ 60079-25:2010/2015

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აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

English version

**Explosive atmospheres -
Part 25: Intrinsically safe electrical systems
(IEC 60079-25:2010)**

Atmosphères explosives -
Partie 25: Systèmes électriques de
sécurité intrinsèque
(CEI 60079-25:2010)

Explosionsfähige Atmosphäre -
Teil 25: Eigensichere Systeme
(IEC 60079-25:2010)

This European Standard was approved by CENELEC on 2010-10-01. 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.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 31G/202/FDIS, future edition 2 of IEC 60079-25, prepared by SC 31G, Intrinsically-safe apparatus, of IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-25 on 2010-10-01.

This European Standard supersedes EN 60079-25:2004.

The significant changes with respect to EN 60079-25:2004 are:

- extension of the scope from Group II to Groups I, II and III;
- introduction of level of protection "ic";
- addition of requirements for cables and multi-core cables;
- reference to EN 60079-11 regarding the termination of intrinsically safe circuits;
- requirements for the assessment of an expanded and clarified intrinsically safe system regarding level of protection "ic", simple apparatus and faults in multi-core cables;
- introduction of predefined systems and merging of the system requirements for FISCO from EN 60079-27;
- addition of requirements for simple intrinsically safe systems containing both lumped inductance and lumped capacitance;
- addition of a method for testing the electrical parameters of cables;
- additional information for the use of simple apparatus in systems.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) | 2011-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2013-10-01 |

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 94/9/EC. See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60079-25:2010 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 60529

NOTE Harmonized as EN 60529.

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 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60079-0	-	Explosive atmospheres - Part 0: Equipment - General requirements	EN 60079-0	-
IEC 60079-11	2006	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	EN 60079-11	2007
IEC 60079-14	2007	Explosive atmospheres - Part 14: Electrical installations design, selection and erection	EN 60079-14	2008
IEC 60079-15	-	Explosive atmospheres – Part 15: Equipment protection by type of protection "n"	EN 60079-15	-
IEC 60079-27	2008	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	EN 60079-27	2008
IEC 61158-2	-	Industrial communication networks - Fieldbus specifications - Part 2: Physical layer specification and service definition	EN 61158-2	-
IEC 61241-0	-	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	EN 61241-0	-
IEC 61241-11	-	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	EN 61241-11	-

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Annex ZZ (informative)

Coverage of essential requirements of the directive 94/9/EC

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 safety requirements out of those given in Annex II of the EC Directive 94/9/EC:

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.

ESR	Equivalent requirement in EN 60079-25:2010
1.0.1	fundamental basis of standard
1.0.2	Fundamental principle of intrinsic safety technique applied throughout this standard and apparatus standard EN 60079-11 and EN 60079-0
1.0.3	Requirement primarily met by apparatus standard EN 60079-11 and the maintenance requirements specified in EN 60079-14 and EN 60079-17.
1.0.4	EN 60079-0 Clause 5, Subclauses 6.1, 6.2, 7.2 and 7.3
1.0.5	Clause 14, EN 60079-0 Clause 29 and Foreword
1.0.6 a	Clause 4
1.1.1	EN 60079-0 Clause 8.1
1.1.3	EN 60079-0 Clause 7, 8, 12
1.2.1	The system and apparatus standards represent the latest state of the art
1.2.2	Requirement met by apparatus standard, EN 60079-0 Clause 13 and clause 13.2 of this standard
1.2.4	Clause 5 also covers Group III, details in EN 60079-0 and EN 60079-11
1.2.6	Covered by EN 60079-11
1.3.1	Sparks and hot surfaces covered in Clause 13 and in EN 60079-11. Other potential ignition sources covered in EN 60079-0
1.3.2	EN 60079-0, Subclause 7.4
1.3.3 to 1.3.5	EN 60079-0
1.4	EN 60079-0 and EN 60079-11
2.0.1 and 2.0.2	'ia' apparatus and systems in accordance with EN 60079-11 and this standard meet the 'two fault' criterion (M1) and 'ib' apparatus and systems in accordance with EN 60079-11 and this standard meet the 'one fault' criterion (M2) and the other criterions
2.1.1 and 2.1.2	'ia' apparatus and systems in accordance with EN 60079-11/EN 61241-11 and this standard meet the 'two fault' criterion (1G and 1D) and the other criterions
2.2.1 and 2.2.2	'ib' apparatus and systems in accordance with EN 60079-11/EN 61241-11 and this standard meet the 'one fault' criterion (2G and 2D) and the other criterions
2.3.1 and 2.3.2	'ic' apparatus and systems in accordance with EN 60079-11/EN 61241-11 and this standard meet the 'safe in normal operation' criterion (3G and 3D) and the other criterions

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Explosive atmospheres –
Part 25: Intrinsically safe electrical systems**

**Atmosphères explosives –
Partie 25: Systèmes électriques de sécurité intrinsèque**





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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
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Email: inmail@iec.ch
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Email: csc@iec.ch
Tél.: +41 22 919 02 11
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