

## საქართველოს სტანდარტი

---

ფეთქებადსაშიში ატმოსფერო - ნაწილი 17:  
ელექტრონული დანადგარების მომსახურება და კონტროლი  
(იეკ 60079-17:2013)

საქართველოს სტანდარტებისა და  
მეტროლოგიის ეროვნული სააგენტო  
თბილისი

**სსტ ენ 60079-17:2014/2017**

**საინფორმაციო მონაცემები**

1 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტებისა  
და მეტროლოგიის ეროვნული სააგენტოს 2017 წლის 1 ივნისის  
№ 39 და 2017 წლის 31 იანვრის № 3 განკარგულებებით

2 მიღებულია თავფურცლის თარგმნის მეთოდით სტანდარტიზაციის ევროპული  
კომიტეტის სტანდარტი ენ 60079-17:2014 „ფეთქებადსაშიში ატმოსფერო - ნაწილი 17:  
ელექტრონული დანადგარების მომსახურება და კონტროლი იეკ 60079-17:2013”

**3 პირველად**

4 რეგისტრირებულია საქართველოს სტანდარტებისა და მეტროლოგიის  
ეროვნული სააგენტოს რეესტრში: 2017 წლის 1 ივნისი  
№268-1.3-011504

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

English version

**Explosive atmospheres -  
Part 17: Electrical installations inspection and maintenance  
(IEC 60079-17:2013)**

Atmosphères explosives -  
Partie 17: Inspection et entretien des  
installations électriques  
(CEI 60079-17:2013)

Explosionsgefährdete Bereiche -  
Teil 17: Prüfung und Instandhaltung  
elektrischer Anlagen  
(IEC 60079-17:2013)

This European Standard was approved by CENELEC on 2013-12-24. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**CENELEC**

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 31J/224/FDIS, future edition 5 of IEC 60079-17, prepared by SC 31J, Classification of hazardous areas and installation requirements, of IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-17:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-09-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-12-24

This document supersedes EN 60079-17:2007.

EN 60079-17:2014 includes the following significant technical changes with respect to EN 60079-17:2007:

- Equipment specific inspection tables for luminaires, heating systems and motors have been added into Annex A to supplement the general protection concept tables.
- Document has been updated to complement the changes made to EN 60079-14 for initial inspection.

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

## Endorsement notice

The text of the International Standard IEC 60079-17:2013 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 60079-5	NOTE	Harmonised as EN 60079-5.
IEC 60079-6	NOTE	Harmonised as EN 60079-6.
IEC 60079-18	NOTE	Harmonised as EN 60079-18.
IEC 60079-26	NOTE	Harmonised as EN 60079-26.
IEC 60079-28	NOTE	Harmonised as EN 60079-28.
IEC 60204-1	NOTE	Harmonised as EN 60204-1.

## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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	-	Explosive atmospheres - Part 0: Equipment - General requirements	EN 60079-0	
IEC 60079-1	-	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	EN 60079-1	-
IEC 60079-2	-	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"	EN 60079-2	-
IEC 60079-7		Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7	
IEC 60079-10-1	-	Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres	EN 60079-10-1	-
IEC 60079-10-2	-	Explosive atmospheres - Part 10-2: Classification of areas - Combustible dust atmospheres	EN 60079-10-2	-
IEC 60079-11		Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	EN 60079-11	-
IEC 60079-14	-	Explosive atmospheres - Part 14: Electrical installations design, selection and erection	EN 60079-14	-
IEC 60079-15	-	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	EN 60079-15	-
IEC 60079-19	-	Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation	EN 60079-19	-
IEC 60079-31	-	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	EN 60079-31	-
IEC 60364-6	-	Low voltage electrical installations - Part 6: Verification	HD 60364-6	-
IEC 61241-4	-	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'		-



IEC 60079-17

Edition 5.0 2013-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Explosive atmospheres –  
Part 17: Electrical installations inspection and maintenance**

**Atmosphères explosives –  
Partie 17: Inspection et entretien des installations électriques**





## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2013 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de la CEI ou du Comité national de la CEI du pays du demandeur.

Si vous avez des questions sur le copyright de la CEI ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de la CEI de votre pays de résidence.

IEC Central Office  
3, rue de Varembé  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

#### Useful links:

IEC publications search - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

The advanced search enables you to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Stay up to date on all new IEC publications. Just Published details all new publications released. Available on-line and also once a month by email.

Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary (IEV) on-line.

Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [csc@iec.ch](mailto:csc@iec.ch).

### A propos de la CEI

La Commission Electrotechnique Internationale (CEI) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

### A propos des publications CEI

Le contenu technique des publications de la CEI est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Liens utiles:

Recherche de publications CEI - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

La recherche avancée vous permet de trouver des publications CEI en utilisant différents critères (numéro de référence, texte, comité d'études,...).

Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

Just Published CEI - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Restez informé sur les nouvelles publications de la CEI. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - [www.electropedia.org](http://www.electropedia.org)

Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (VEI) en ligne.

Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [csc@iec.ch](mailto:csc@iec.ch).



IEC 60079-17

Edition 5.0 2013-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Explosive atmospheres –**

**Part 17: Electrical installations inspection and maintenance**

**Atmosphères explosives –**

**Partie 17: Inspection et entretien des installations électriques**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

W

ICS 29.260.20

ISBN 978-2-8322-1193-9

**Warning! Make sure that you obtained this publication from an authorized distributor.**

**Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD .....	5
INTRODUCTION .....	7
1 Scope .....	8
2 Normative references .....	8
3 Terms and definitions .....	9
4 General requirements .....	11
4.1 Documentation .....	11
4.2 Qualification of personnel .....	11
4.3 Inspections .....	11
4.3.1 General .....	11
4.3.2 Grades of inspection .....	12
4.3.3 Types of inspection .....	13
4.4 Periodic inspections .....	13
4.4.1 Personnel .....	13
4.4.2 Fixed installations .....	13
4.4.3 Movable equipment .....	14
4.5 Continuous supervision by skilled personnel .....	14
4.5.1 Concept .....	14
4.5.2 Objectives .....	14
4.5.3 Responsibilities .....	15
4.5.4 Frequency of inspection .....	15
4.5.5 Documents .....	16
4.5.6 Training .....	16
4.6 Maintenance requirements .....	16
4.6.1 Remedial measures and alterations to equipment .....	16
4.6.2 Maintenance of flexible cables .....	17
4.6.3 Withdrawal from service .....	17
4.6.4 Fastenings and tools .....	17
4.7 Environmental conditions .....	17
4.8 Isolation of equipment .....	18
4.8.1 Installations other than intrinsically safe circuits .....	18
4.8.2 Intrinsically safe installations live maintenance .....	19
4.9 Earthing and equipotential bonding .....	20
4.10 Specific conditions of use .....	20
4.11 Movable equipment and its connections .....	20
4.12 Inspection schedules (Tables 1 to 3) .....	20
4.12.1 General .....	20
4.12.2 Equipment is appropriate to the EPL/zone requirements of the location .....	20
4.12.3 Equipment group .....	20
4.12.4 Equipment maximum surface temperature .....	20
4.12.5 Equipment circuit identification .....	20
4.12.6 Cable gland .....	21
4.12.7 Type of cable .....	21
4.12.8 Sealing .....	21

4.12.9	Fault loop impedance or earthing resistance .....	21
4.12.10	Insulation resistance .....	21
4.12.11	Overload protection .....	21
4.12.12	Lamps and luminaires .....	21
5	Additional inspection schedule requirements .....	22
5.1	Type of protection “d” – Flameproof enclosure (see Table 1 and IEC 60079-1) .....	22
5.2	Type of protection “e” – Increased safety (see Table 1 and IEC 60079-7) .....	22
5.3	Type of protection “i” – Intrinsic safety (see Table 2 and IEC 60079-11) .....	22
5.3.1	General .....	22
5.3.2	Documentation .....	22
5.3.3	Labelling .....	23
5.3.4	Unauthorized modifications .....	23
5.3.5	Associated apparatus (safety interface) between intrinsically safe and non-intrinsically safe circuits .....	23
5.3.6	Cables .....	23
5.3.7	Cable screens .....	23
5.3.8	Point-to-point connections .....	23
5.3.9	Earth continuity of non-galvanically isolated circuits .....	23
5.3.10	Earth connections to maintain the integrity of the intrinsic safety .....	24
5.3.11	Intrinsically safe circuit earthing and/or insulation .....	24
5.3.12	Separation between intrinsically safe and non-intrinsically safe circuits .....	24
5.4	Type of protection “p” and “pD” – Pressurized enclosure (see Table 3, IEC 60079-2 and IEC 61241-4) .....	24
5.5	Type of protection “n” (see Table 1 or 2 and IEC 60079-15) .....	24
5.5.1	General .....	24
5.5.2	Restricted breathing enclosures .....	25
5.6	Type of protection “t” and “tD” – Protection by enclosure (see Table 1 and IEC 60079-31 and IEC 61241-1) .....	25
5.7	Types of protection “m” and “mD” (encapsulation), “o”, (oil-immersion) “op” (optical radiation) and “q” (powder-filling) .....	25
6	Inspection tables .....	25
Annex A (informative)	Typical inspection procedure for periodic inspections .....	30
Annex B (normative)	Knowledge, skills and competencies of responsible persons, technical persons with executive function and operatives .....	31
B.1	Scope .....	31
B.2	Knowledge and skills .....	31
B.2.1	Responsible persons and technical persons with executive function .....	31
B.2.2	Operative/technician (inspection and maintenance) .....	31
B.3	Competencies .....	32
B.3.1	General .....	32
B.3.2	Responsible persons and technical persons with executive function .....	32
B.3.3	Operative/technician .....	32
B.4	Assessment .....	32
Annex C (informative)	Fitness-for-purpose assessment .....	33
C.1	Background .....	33

C.2	Need for a fitness-for-purpose assessment .....	33
C.3	Approach .....	33
C.4	Ignition sources .....	33
C.5	Contents of the fitness-for-purpose assessment.....	33
C.5.1	General .....	33
C.5.2	Scope .....	33
C.5.3	Equipment and its application .....	34
C.5.4	Description .....	34
C.5.5	Function of the product including the location .....	34
C.5.6	Specification.....	34
C.5.7	Standards compliance .....	34
C.5.8	Documents .....	35
C.5.9	Product sample.....	35
C.5.10	Equipment label.....	35
C.5.11	Training of personnel.....	35
Annex D (informative)	Example of motor checks .....	36
Bibliography.....	37	
	Figure A.1 – Typical inspection procedure for periodic inspections.....	30
	Table 1 – Inspection schedule for Ex “d”, Ex “e”, Ex “n” and Ex “t/tD” .....	25
	Table 2 – Inspection schedule for Ex “i” installations .....	28
	Table 3 – Inspection schedule for Ex “p” and “pD” installations .....	29