

PLAHVATUSOHTLIKUD KESKKONNAD. OSA 25:  
SÄDEMEOHUTUD ELEKTRILISED SÜSTEEMID

Explosive atmospheres - Part 25: Intrinsically safe  
electrical systems

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60079-25:2022 sisaldab Euroopa standardi EN IEC 60079-25:2022 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60079-25:2022 consists of the English text of the European standard EN IEC 60079-25:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.09.2022.	Date of Availability of the European standard is 09.09.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 29.260.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis-ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

**Explosive atmospheres - Part 25: Intrinsically safe electrical systems  
(IEC 60079-25:2020 + COR1:2020)**

Atmosphères explosives - Partie 25: Systèmes électriques de sécurité intrinsèque  
(IEC 60079-25:2020 + COR1:2020)

Explosionsfähige Atmosphäre - Teil 25: Eigensichere Systeme  
(IEC 60079-25:2020 + COR1:2020)

This European Standard was approved by CENELEC on 2022-05-25. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

The text of document 31G/318/FDIS, future edition 3 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 approved by CENELEC as EN IEC 60079-25:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2023-03-09 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2025-09-09 document have to be withdrawn

This document supersedes EN 60079-25:2010 and all of its amendments and corrigenda (if any).

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

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZZ, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

## Endorsement notice

The text of the International Standard IEC 60079-25:2020 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

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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

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



## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2020 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 l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

Tel.: +41 22 919 02 11  
[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 corrigendum or an amendment might have been published.

#### IEC publications search - [webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables 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 online and once a month by email.

#### IEC 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: [sales@iec.ch](mailto:sales@iec.ch).

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

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) 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 IEC

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

#### Recherche de publications IEC -

[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

La recherche avancée permet de trouver des publications IEC 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.

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

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

#### 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: [sales@iec.ch](mailto:sales@iec.ch).

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

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

#### Glossaire IEC - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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

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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 29.260.20

ISBN 978-2-8322-8512-1

**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.....	4
1 Scope.....	9
2 Normative references .....	9
3 Terms and definitions .....	9
4 Descriptive system document .....	11
5 Grouping and temperature classification.....	11
6 Levels of Protection.....	11
6.1 General.....	11
6.2 Level of Protection “ia”.....	12
6.3 Level of Protection “ib”.....	12
6.4 Level of Protection “ic”.....	12
7 Non-intrinsically safe circuits .....	12
8 Interconnecting wiring / cables used in an intrinsically safe system .....	12
8.1 General.....	12
8.2 Cables containing a single intrinsically safe circuit.....	12
8.3 Cables containing more than one intrinsically safe circuit.....	12
9 Requirements of single and multi-circuit cables .....	13
9.1 General.....	13
9.2 Dielectric strength.....	13
9.2.1 Cables containing a single intrinsically safe circuit.....	13
9.2.2 Cables containing more than one intrinsically safe circuit .....	13
9.3 Intrinsic safety parameters of cables.....	13
9.4 Conducting screens .....	14
9.5 Types of multi-circuit cables.....	14
9.5.1 General .....	14
9.5.2 Type A cable .....	14
9.5.3 Type B cable .....	14
9.5.4 Type C cable .....	14
10 Enclosures .....	14
11 Earthing and bonding of intrinsically safe systems .....	14
12 Assessment of an intrinsically safe system .....	15
12.1 General.....	15
12.2 Systems containing only apparatus certified to IEC 60079-11 .....	15
12.3 Systems containing apparatus not separately evaluated to IEC 60079-11 .....	15
12.4 Systems containing a single power source.....	15
12.5 Systems containing more than one power source.....	16
12.5.1 General .....	16
12.5.2 Systems containing linear and non-linear sources of power .....	16
12.6 Simple apparatus.....	18
12.7 Assessment of capacitance, inductance and cable L/R .....	18
12.7.1 General .....	18
12.7.2 Unspecified Parameters.....	18
12.7.3 Output Parameter adjustments for Level of Protection .....	18
12.7.4 Effect of combined lumped capacitance and inductance .....	18
12.7.5 Determination of L/R.....	18
12.8 Faults in multi-circuit cables.....	19



12.9 Type verifications and type tests .....	19
13 Predefined systems .....	19
Annex A (informative) Assessment of a simple intrinsically safe system.....	20
Annex B (informative) Assessment of circuits with more than one power source .....	22
Annex C (informative) Interconnection of non-linear and linear intrinsically safe circuits .....	25
C.1 General.....	25
C.2 Assessment of the output characteristics of the power sources .....	25
C.3 Assessment of interconnection possibilities and resultant output characteristics .....	28
C.4 Determination of intrinsic safety and the use of graphs .....	31
C.5 Verification against IEC 60079-11 .....	33
C.6 Illustration of the procedure .....	33
C.7 Limit curves for universal source characteristic .....	37
Annex D (informative) Verification of inductive parameters .....	48
Annex E (informative) Example format for a descriptive system document .....	50
Annex F (informative) Use of simple apparatus in systems .....	52
F.1 General.....	52
F.2 Use of apparatus with 'simple apparatus' .....	53
Annex G (normative) FISCO systems.....	54
G.1 General.....	54
G.2 System requirements .....	54
G.2.1 General .....	54
G.3 Additional requirements of "ic" FISCO systems .....	55
Bibliography.....	57
Figure 1 – Systems analysis .....	17
Figure B.1 – Power sources connected in series .....	23
Figure B.2 – Power sources connected in parallel.....	24
Figure B.3 – Power sources not deliberately connected .....	24
Figure C.1 – Equivalent circuit and output characteristic of resistive circuits .....	26
Figure C.2 – Output characteristic and equivalent circuit of a source with trapezoidal characteristic .....	28
Figure C.3 – Current and/or voltage addition for interconnections .....	31
Figure C.4 – Example of an interconnection.....	33
Figure C.5 – Sum characteristics for the circuit as given in Figure C.4.....	35
Figure C.6 – Current and/or voltage addition for the example given in Figure C.4 .....	36
Figure C.7 – Limit curve diagram for universal source characteristic – Group IIC.....	42
Figure C.8 – Limit curve diagram for universal source characteristic – Group IIB .....	47
Figure D.1 – Typical inductive circuit .....	49
Figure E.1 – Typical block diagram for IS system descriptive system document.....	51
Figure G.1 – Typical system .....	56
Table A.1 – Simple system analysis .....	21
Table C.1 – Parameters necessary to describe the output characteristic.....	26
Table C.2 – Assignment of diagrams to equipment Groups and inductances .....	32

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

---

EXPLOSIVE ATMOSPHERES –**Part 25: Intrinsically safe electrical systems**

## 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60079-25 has been prepared by subcommittee 31G: Intrinsically safe apparatus, of IEC technical committee 31: Equipment for explosive atmospheres.

This third edition cancels and replaces the second edition published in 2010 and constitutes a technical revision.

The significance of the changes between IEC 60079-25, Edition 2 (2010) and IEC 60079-25, Edition 3 (2019) are as listed below:

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
References to 'electrical systems' changed to 'systems' and note added that installation requirement for Group I are being considered.	1	X		
Normative references updated to remove references that were outdated or not mentioned in the body of the standard.	2	X		
Reference to IEC Electropedia and ISO Online Browsing platform added, abbreviations dropped from title. Definition of 'system designer' deleted, definitions of 'certified intrinsically safe electrical system', and 'uncertified intrinsically safe electrical system' dropped.	3	X		
'Intrinsically safe electrical system' changed to 'intrinsically safe system'.	3.1	X		
Definition for 'multi-circuit cable' added.	3.2	X		
'Maximum' changed to 'total' on definitions of cable capacitance and cable inductance.	3.4, 3.5	X		
'Maximum' deleted on definition of cable inductance to resistance ratio.	3.6	X		
FISCO changed to definition from abbreviation.	3.9	X		
The requirement for the system designer to sign and date the document dropped, editorial changes for clarity made, and a reference to Annex E made to show typical descriptive system documents.	4	X		
Title of clause changed to 'Grouping and temperature classification', ambient temperature range added to things to be included in the system document and reworded for clarity.	5		X	
Notes moved and reworded among the clauses.	6.1, 6.2, 6.3, 6.4	X		
Changed from 'Ambient temperature rating' which was moved to Clause 5, and new section renamed 'Non-intrinsically safe circuits' added.	7		X	
Clause reorganized into sections and some rewording done for clarity.	8	X		
Title changed to 'Requirements of single and multi-circuit cables'.	9	X		
Requirement for insulation thickness moved into this clause, and it now applies to all cables.	9.1		X	
Title changed to 'Dielectric strength' and consolidation of requirements for single circuit and multi-circuit cables. Requirement for dielectric testing changed to twice the circuit voltage with a minimum of 500VAC.	9.2		X	
Dielectric strength requirements for single circuit cables consolidated here.	9.2.1	X		
Dielectric strength requirements for multi- circuit cables consolidated here.	9.2.2	X		
Multi-circuit cables shall not be used for intrinsically safe circuits with voltages exceeding 90 V.	9.2.2			C1
Title changed to 'Intrinsic safety parameters of cables'	9.3	X		

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Title changed to 'Enclosures'	10	X		
Most of the old Clause 12 moved to IEC 60079-14.	11			C2
This clause was Clause 13 in the previous edition, and the entire clause has been re-arranged for clarity and easier reading.	12	X		
This General clause has been re-written in list format to make it easier to understand, and analysis of single and multiple power supplies moved to 12.4 and 12.5 respectively.	12.1		X	
This clause added to clarify fault applications in assemblies of certified equipment.	12.2		X	
This clause added to provide guidance on how to handle non-certified items in larger assemblies.	12.3		X	
Analysis of single power source information consolidated here and amplified.	12.4		X	
Analysis of multiple power sources information consolidated in this clause. Information added for clarity.	12.5		X	
The circuit analysis example dropped in text for simple apparatus, new Annex F added with more information.	12.6	X		
Section added to provide more information on determining capacitance, inductance and L/R that was moved from Annex A.	12.7		X	
Requirements for Type A, B, and C cables reworded for clarity.	12.8	X		
Information on evaluation of capacitance and inductance moved to 12.7.	Annex A	X		
Changed from normative to informative	Annex B	X		
Reordered and rewritten for greater clarity.	Annex C	X		
Annex updated for clarity.	Annex E	X		
The former Annex F on surge protection has been removed.	Annex F			C3
Annex G in the previous edition was on testing of cable parameters and has been removed from this edition. Annex G is now FISCO systems.	Annex G	X		

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version. More guidance may be found by referring to the Redline Version of the standard.

**Explanations:****A) Definitions****Minor and editorial changes**

clarification  
decrease of technical requirements  
minor technical change  
editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

**Extension**

addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

**Major technical changes**

addition of technical requirements  
increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

**B) Information about the background of 'Major Technical Changes'**

B1 – A limitation of 90 V for multi-circuit system has been added since for this voltage level a dielectric test of at least 500 V AC or 700 V DC is normally used to validate the insulation.

B2 – Most of the earthing and bonding requirements have been removed and moved to IEC 60079-14, and the surge protection requirements that were in the old Clause 12 were added here in Clause 11. The rest of the old Clause 12 was also removed and moved to IEC 60079-14.

B3 – The former Annex F on surge protection has been removed and will be covered in IEC 60079-14. Annex F is now Simple Apparatus, which was Annex H in the previous edition.

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

FDIS	Report on voting
31G/318/FDIS	31G/321/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, published under the general title *Explosive atmospheres*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

## EXPLOSIVE ATMOSPHERES –

### Part 25: Intrinsically safe electrical systems

#### 1 Scope

This part of IEC 60079 contains the specific requirements for design, construction and assessment of intrinsically safe systems, Type of Protection “i”, intended for use, as a whole or in part, in locations in which the use of Group I, II or III Ex Equipment is required.

NOTE 1 This standard is intended for use by the designer of the system e.g. a person who could be a manufacturer, a specialist consultant or a member of the end-user's staff.

This document supplements and modifies the general requirements of IEC 60079-0 and the intrinsic safety standard IEC 60079-11. Where a requirement of this standard conflicts with a requirement of IEC 60079-0 or IEC 60079-11, the requirement of this standard takes precedence.

The installation requirements of Group II or Group III systems designed in accordance with this standard are specified in IEC 60079-14.

NOTE 2 Group I installation requirements are presently not provided in IEC 60079-14. Installation requirements for Group I are being considered.

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”*

IEC 60079-14, *Explosive atmospheres – Part 14: Electrical installations design, selection and erection*

IEC 61158-2, *Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition*

#### 3 Terms and definitions

For the purposes of this document, the following terms and definitions, specific to intrinsically safe systems, apply. They supplement the terms and definitions which are given in IEC 60079-0 and IEC 60079-11.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>