SVENSK STANDARD SS-EN 60079-10-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2009-06-29	1	1 (1+66)	SEK TK 31

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Explosiv atmosfär –
Del 10-1: Klassning av områden med explosiv gasatmosfär

Explosive atmospheres –
Part 10-1: Classification of areas –
Explosive gas atmospheres

Som svensk standard gäller europastandarden EN 60079-10-1:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60079-10-1:2009.

Nationellt förord

Europastandarden EN 60079-10-1:2009

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60079-10-1, First edition, 2008 - Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60079-10, utgåva 2, 2003, gäller ej fr o m 2012-03-01

ICS 29.260.20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60079-10-1

March 2009

ICS 29.260.20

Supersedes EN 60079-10:2003

English version

Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres

(IEC 60079-10-1:2008)

Atmosphères explosives - Partie 10-1: Classement des emplacements - Atmosphères explosives gazeuses (CEI 60079-10-1:2008)

Explosionsfähige Atmosphäre - Teil 10-1: Einteilung der Bereiche - Gasexplosionsgefährdete Bereiche (IEC 60079-10-1:2008)

This European Standard was approved by CENELEC on 2009-03-01. 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: avenue Marnix 17, B - 1000 Brussels

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SEK Svensk Elstandard

Foreword

The text of document 31J/159/FDIS, future edition 1 of IEC 60079-10-1, 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 was approved by CENELEC as EN 60079-10-1 on 2009-03-01.

This European Standard supersedes EN 60079-10:2003.

The significant technical changes with respect to EN 60079-10:2003 are as follows:

– introduction of Annex D which deals with explosion hazard from flammable mists generated by the release under pressure of high flash point liquids;

– introduction of Clause A.3 (release rate) which gives thermodynamic equations for release rate with a number of examples for estimating release rate of fluids and gases.

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)	2009-12-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-03-01

Annexes ZA and ZB have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60079-10-1:2008 was approved by CENELEC as a European Standard without any modification.

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.

Publication	Year	Title	EN/HD	Year
IEC 60050-426	-[1)]	International Electrotechnical Vocabulary (IEV) - Part 426: Equipment for explosive atmospheres	-	-
IEC 60079-0	-[1)]	Explosive atmospheres - Part 0: Equipment - General requirements	EN 60079-0	-[1)]
IEC 60079-4	-[1)]	Electrical apparatus for explosive gas atmospheres - Part 4: Method of test for ignition temperature	-	-
IEC 60079-4A	-[1)]	Electrical apparatus for explosive gas atmospheres - Part 4: Method of test for ignition temperature First supplement to IEC 60079-4A:1966	-	-
IEC/TR 60079-20	-[1)]	Electrical apparatus for explosive gas atmospheres - Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus	-	-

[1)] Undated reference.

CONTENTS

INTRODUCTION

In areas where dangerous quantities and concentrations of flammable gas or vapour may arise, protective measures are to be applied in order to reduce the risk of explosions. This part of IEC 60079 sets out the essential criteria against which the ignition hazards can be assessed, and gives guidance on the design and control parameters which can be used in order to reduce such a hazard.

EXPLOSIVE ATMOSPHERES –

Part 10-1: Classification of areas – Explosive gas atmospheres

1 Scope

This part of IEC 60079 is concerned with the classification of areas where flammable gas or vapour or mist hazards (see Notes 1, 2 and 3) may arise and may then be used as a basis to support the proper selection and installation of equipment for use in a hazardous area.

It is intended to be applied where there may be an ignition hazard due to the presence of flammable gas or vapour, mixed with air under normal atmospheric conditions (see Note 4), but it does not apply to

a) mines susceptible to firedamp;

b) the processing and manufacture of explosives;

c) areas where a hazard may arise due to the presence of combustible dusts or fibres (refer to IEC 61241-10 / IEC 60079-10-2);

d) catastrophic failures which are beyond the concept of abnormality dealt with in this standard (see Note 5);

e) rooms used for medical purposes;

f) domestic premises.

This standard does not take into account the effects of consequential damage.

Definitions and explanations of terms are given together with the main principles and procedures relating to hazardous area classification.

For detailed recommendations regarding the extent of the hazardous areas in specific industries or applications, reference may be made to national or industry codes relating to those applications.

NOTE 1 Flammable mists may form or be present at the same time as flammable vapours. Liquids not considered to be hazardous in terms of this standard (due to the flash point), when released under pressure may also generate flammable mists. In such cases, the strict application of area classification for gases and vapours may not be appropriate as the basis for selection of equipment.

Information on flammable mists is provided in Annex D.

NOTE 2 The use of IEC 60079-14 for selection of equipment and installations is not required for mist hazards.

NOTE 3 For the purpose of this standard, an area is a three-dimensional region or space.

NOTE 4 Atmospheric conditions include variations above and below reference levels of 101,3 kPa (1 013 mbar) and 20 °C (293 K), provided that the variations have a negligible effect on the explosion properties of the flammable materials.

NOTE 5 Catastrophic failure in this context is applied, for example, to the rupture of a process vessel or pipeline and events that are not predictable.

NOTE 6 In any process plant, irrespective of size, there may be numerous sources of ignition apart from those associated with equipment. Appropriate precautions will be necessary to ensure safety in this context. This standard may be used with judgement for other ignition sources.

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 60050-426, *International Electrotechnical Vocabulary (IEV) – Part 426: Equipment for explosive atmospheres*

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-4, *Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperature*

IEC 60079-4A, *First supplement to IEC 60079-4 (1966), Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperature*

IEC 60079-20, *Electrical apparatus for explosive gas atmospheres – Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus*