BRITISH STANDARD

BS EN
60079-14:2003

Electrical apparatus for explosive gas atmospheres —

Part 14: Electrical installations in hazardous areas (other than mines)

The European Standard EN 60079-14:2003 has the status of a British Standard

ICS 29.260.20

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 60079-14:2003. It is identical with IEC 60079-14:2002. It supersedes BS EN 60079-14:1997 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/31, Electrical apparatus for use in explosive atmospheres, to Subcommittee GEL/31/11, Code of practice for electrical apparatus for explosive atmospheres, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 63 and a back cover.

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EUROPEAN STANDARD **EN 60079-14**

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English version

Electrical apparatus for explosive gas atmospheres Part 14: Electrical installations in hazardous areas (other than mines)

(IEC 60079-14:2002)

Matériel électrique pour atmosphères explosives gazeuses
Partie 14: Installations électriques dans les emplacements dangereux (autres que les mines)
(CEI 60079-14:2002)

Elektrische Betriebsmittel für gasexplosionsgefährdete Bereiche
Teil 14: Errichtung elektrischer Anlagen in explosionsgefährdeten Bereichen (ausgenommen Grubenbaue)
(IEC 60079-14:2002)

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

Ref. No. EN 60079-14:2003 E

Foreword

The text of the International Standard IEC 60079-14:2002, prepared by SC 31J, Classification of hazardous areas and installation requirements, of IEC TC 31, Electrical apparatus for explosive atmospheres, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60079-14 on 2003-07-01.

This European Standard supersedes EN 60079-14:1997.

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)	2004-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2006-07-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A and ZA are normative and annexes B and C are informative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60079-14:2002 was approved by CENELEC as a European Standard without any modification.

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CONTENTS

INTRODUCTION

When electrical apparatus is to be installed in areas where dangerous concentrations and quantities of flammable gases, vapours, mists, ignitable fibres or dusts may be present in the atmosphere, protective measures are applied to reduce the likelihood of explosion due to ignition by arcs, sparks or hot surfaces, produced either in normal operation or under specified fault conditions.

This part of IEC 60079 is supplementary to other relevant IEC standards, for example IEC 60364 as regards electrical installation requirements, and also refers to IEC 60079-0 and its associated standards for the construction, testing and marking requirements of suitable electrical apparatus.

By careful design of the electrical installation, it is frequently possible to locate much of the electrical apparatus in less hazardous or non-hazardous areas.

For an explosion to occur, an explosive atmosphere and a source of ignition need to co-exist. Protective measures aim to reduce to an acceptable level the likelihood that the electrical installation could become a source of ignition.

It has been found practical to classify hazardous areas into zones according to the likelihood of an explosive gas atmosphere being present (see IEC 60079-10). Such classification allows appropriate types of protection to be specified for each zone.

Several types of protection are now available for electrical apparatus in hazardous areas (see IEC 60079-0), and this standard gives the specific requirements for design, selection and erection of electrical installations in explosive gas atmospheres.

This standard is based on the assumption that electrical apparatus is correctly installed, tested, maintained and used in accordance with its specified characteristics.

Inspection, maintenance and repair aspects also form an important part of hazardous area installations and the user’s attention is drawn to IEC 60079-17 and IEC 60079-19 for further information concerning these aspects.

In any industrial installation, irrespective of size, there may be numerous sources of ignition apart from those associated with electrical apparatus. Precautions may be necessary to ensure safety, but guidance on this aspect is outside the scope of this standard.

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES –

Part 14: Electrical installations in hazardous areas (other than mines)

1 Scope

This part of IEC 60079 contains the specific requirements for the design, selection and erection of electrical installations in explosive gas atmospheres.

These requirements are in addition to the requirements for installations in non-hazardous areas.

This standard applies to all electrical equipment and installations in hazardous areas whether permanent, temporary, portable, transportable or hand-held.

It applies to installations at all voltages.

This standard does not apply to

– electrical installations in mines susceptible to firedamp;

NOTE This standard may apply to electrical installations in mines where explosive gas atmospheres other than firedamp may be formed and to electrical installations in the surface installation of mines.

– electrical installations in areas where the hazard is due to combustible dusts or fibres;
– inherently explosive situations, for example explosives manufacturing and processing;
– rooms used for medical purposes.

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 60034-5:2000, *Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification*

IEC 60034-17:2002, *Rotating electrical machines – Part 17: Cage induction motors when fed from converters – Application guide*

IEC 60050(426):1990, *International Electrotechnical Vocabulary (IEV) – Chapter 426: Electrical apparatus for explosive atmospheres*

IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60079-0:1998, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*