

Caplights for use in mines susceptible to firedamp —

Part 1: General requirements — Construction and testing in relation to the risk of explosion

The European Standard EN 62013-1:2006 has the status of a British Standard

ICS 29.260.20

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 62013-1:2006. It is identical with IEC 62013-1:2005. It supersedes BS EN 62013-1:2002 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/31, Equipment for explosive atmospheres, to Subcommittee GEL/31/14, Types of protection “e” and “n”.

A list of organizations represented on GEL/31/14 can be obtained on request to its secretary.

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

Compliance with a British Standard cannot confer immunity from legal obligations.

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**Caplights for use in mines susceptible to firedamp
Part 1: General requirements -
Construction and testing in relation to the risk of explosion
(IEC 62013-1:2005)**

Lampes-chapeaux utilisables
dans les mines grisouteuses
Partie 1: Exigences générales -
Construction et essais
liés au risque d'explosion
(CEI 62013-1:2005)

Kopfleuchten für die Verwendung
in schlagwettergefährdeten Grubenbauen
Teil 1: Allgemeine Anforderungen -
Konstruktion und Prüfung
in Relation zum Explosionsrisiko
(IEC 62013-1:2005)

This European Standard was approved by CENELEC on 2006-02-01. 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
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Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 31/587A/FDIS, future edition 2 of IEC 62013-1, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62013-1 on 2006-02-01.

This European Standard is to be read in conjunction with EN 60079-0 as applicable to “Equipment-group I / Category M2”.

This European Standard supersedes EN 62013-1:2002.

The general revision and updating of EN 62013-1:2002 is a result of feedback from the manufacturers and the certifiers following the use of the standard. Its purpose is clarification and the elimination of any ambiguities. Account has also been taken of changes in related standards.

Apart from the general revision and updating, the main technical differences from EN 62013-1:2002 are as follows:

- a) the addition of a subclause (4.5) relating to maximum surface temperature (see also 5.3);
- b) overcurrent protection clarifications and changes;
- c) battery clause amended to allow pressurized/hermetically sealed cells;
- d) clause on documentation added.

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) 2007-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-02-01

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 62013-1:2005 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

This standard is based on a combination of the protective concepts listed in IEC 60079, for example Increased Safety “e” and Intrinsic Safety “i” as well as incorporating operating experience gained over many years in the field of gas ignition prevention.

CAPLIGHTS FOR USE IN MINES SUSCEPTIBLE TO FIREDAMP –

Part 1: General requirements – Construction and testing in relation to the risk of explosion

1 Scope

This part of IEC 62013 specifies requirements for the construction and testing of caplights, including caplights with a point of connection for another apparatus, for use in mines susceptible to firedamp (Group I – electrical apparatus for explosive gas atmospheres as defined in IEC 60079-0). It deals only with the risk of the caplight becoming a source of ignition.

NOTE 1 The requirements for performance are in IEC 62013-2 ¹.

The requirements of IEC 60079-0 do not apply unless specified.

This standard is also applicable to caplights intended for use in mines which have become temporarily endangered by an explosive gas atmosphere, for example in mine rescue operations.

NOTE 2 The use in such circumstances is dependent on a user's risk assessment.

Caplights complying with this standard are intended for personal use under normal conditions of:

Temperature: 0 °C to +40 °C

Pressure: 0,8 bar to 1,1 bar

NOTE 3 In designing apparatus for operation in conditions other than those given above, this standard may be used as a guide; however, additional testing may be required.

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(845):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting*

IEC 60079-0:2004, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

IEC 60079-1:2003, *Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosures "d"*

IEC 60079-7:2001, *Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety "e"*

¹ IEC 62013-2:—, *Caplights for use in mines susceptible to firedamp – Part 2: Performance and other safety-related matters* (to be published)