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BS EN 60079-31:2014



BSI Standards Publication

Explosive atmospheres

Part 31: Equipment dust ignition
protection by enclosure "t"

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This British Standard is the UK implementation of EN 60079-31:2014. It is identical to IEC 60079-31:2013. It supersedes BS EN 60079-31:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EXL/31, Equipment for explosive atmospheres.

A list of organizations represented on this committee 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.

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

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Amendments/corrigenda issued since publication

Date	Text affected
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EUROPÄISCHE NORM

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Supersedes EN 60079-31:2009

English Version

Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" (IEC 60079-31:2013)

Atmosphères explosives - Partie 31: Protection contre l'inflammation de poussières par enveloppe "t" relative au matériel
(CEI 60079-31:2013)

Explosionsgefährdete Bereiche - Teil 31: Geräte-Staubexplosionsschutz durch Gehäuse "t"
(IEC 60079-31:2013)

This European Standard was approved by CENELEC on 2014-01-01. 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 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.



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

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The text of document 31/1079/FDIS, future edition 2 of IEC 60079-31, prepared by IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-31:2014.

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) 2015-01-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-01-01

This document supersedes EN 60079-31:2009.

The State of the Art is included in Annex ZY "Significant changes between this European Standard and EN 60079-31:2009".

For the significant changes with respect to EN 60079-31:2009, see Annex ZY.

This standard is to be read in conjunction with EN 60079-0.

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

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

Endorsement notice

The text of the International Standard IEC 60079-31:2013 was approved by CENELEC as a European Standard without any modification.

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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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

<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 60127	Series	Miniature fuses	EN 60127	Series
IEC 60691	-	Thermal-links - Requirements and application guide	EN 60691	-
ISO 965-1	-	ISO general-purpose metric screw threads - Tolerances - Part 1: Principles and basic data	-	-

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Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only the following essential requirements out of those given in Annex II of the EU Directive 94/9/EC:

- ER 1.0.1, ER 1.0.2 (partly), ER 1.0.4, ER 1.0.5 (partly)
- ER 1.1
- ER 1.2.1 (partly), ER 1.2.2 (partly)
- ER 1.2.4
- ER 1.2.7
- ER 1.2.8 (partly)
- ER 1.3.1
- ER 1.6.4
- ER 2.1
- ER 2.2
- ER 2.3

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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Significant changes between this European Standard and EN 60079-31:2009

This European Standard supersedes EN 60079-31:2009.

The significant changes with respect to EN 60079-31:2009 are as listed below.

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Document has been restructured from the first edition	Numerous	X		
The marked maximum surface temperature shall be measured on the external surfaces of the enclosure and the surfaces of the internal components for equipment with types of protection "ta"	4.3.2			C1
Additional protection for arcing and sparking parts for "ta"	4.3.6			C2
Limiting the internal pressure test to enclosures where the seal is not physically constrained from moving.	4.4.2		X	
Requirements for tapered threaded joints without an additional seal or gasket added.	5.1.2		X	
Requirements for cable gland aligned for all levels and Groups the only difference is now the required IP protection	5.2	X		
Requirements for plain entries added	5.3.1		X	
5 threads for parallel threads only required when no seal is used	5.3.2		X	
Test for internal enclosure for level "ta" added.	6.1.1.2			C 3
Eliminating of the "fault" table and reduction of the dust layer depth for the thermal test for type of protection "ta".	6.1.2		X	

NOTE The technical changes referred to include the significance of technical changes in the revised EN 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.

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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'

C1 – A requirement was added for "ta" to require the temperature marking to be based on the highest of either the temperature produced by the internal components or the external surface temperature.

C2 – Requirements were added for "ta" equipment that contains a normally arcing part to require a supplementary internal enclosure around the arcing part.

C3 – Requires an impact test on the supplementary enclosure for "ta" equipment.

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